SEQUENCE LISTING

<110> Jacobs, Kenneth
McCoy, John M.
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<210> 10
<211> 206
<212> PRT
<213> Homo sapiens

<400> 10

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Ala Phe Gly Leu Phe Pro Ala Leu Pro Ser Ala Leu Asn Ser His Pro
             20                  25                  30

Ala Cys Thr Cys Leu Leu Asp Pro Ser Thr Trp Arg Pro Ala His Val
         35                  40                  45
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Ser Gly Pro Ala Leu Ala Ser Ser Pro Gln Ile Leu Ser Val Phe Ser
     50                  55                  60

Leu Gly Phe Pro Gly Phe Val Asn Gly Ser Cys Val Ser Arg Tyr Lys
 65                  70                  75                  80

Pro Asp Ile Ile Ser Pro Pro Gly Leu Pro Pro Pro Asp Leu Pro Ser
                 85                  90                  95

Ser Val Ser Ile Phe Tyr Leu Gln Leu Leu Cys Ser His Gly His Cys
            100                 105                 110

Cys Ile Thr Glu Ser Gly Pro Leu Leu Ser Phe Ser Asn Trp Pro Pro
        115                 120                 125

Ser Leu Val Pro His Phe Leu Lys Ser Pro Val His Cys His Gln Ile
    130                 135                 140

Lys Leu Ser Pro Ala Arg Ser Pro Leu Ser Glu Lys Pro Pro Leu Thr
145                 150                 155                 160

Trp Lys His His Cys Leu Ala His Ile Leu Thr Tyr Ser Pro Ser Arg
                165                 170                 175

Leu Asp Pro His Thr Ser Phe Gln Pro Pro Leu Pro Leu His Ser Leu
            180                 185                 190

Leu Pro Pro Pro Pro Pro His Pro Leu Val Ser Pro Pro Leu
        195                 200                 205
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<210> 11
<211> 2216
<212> DNA
<213> Homo sapiens

<400> 11
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<210> 12
<211> 126
<212> PRT
<213> Homo sapiens

<400> 12
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1 5 10 15

Pro Ser Arg Asn Leu Leu Ile Gly Lys Arg Leu Gln Thr Pro Ala Val
20 25 30

Cys Val Leu Gln Val His Ala Ala Lys Val Ile Pro Ala His Pro Cys
35 40 45

Pro Val Ser Val Ser Phe Arg Val Ile Pro Tyr Leu Ser Ile Gly Gly
50 55 60

Leu Ile Leu Leu Asp Phe Leu Lys Thr Leu Arg Trp Ser Ile Arg Ser
65 70 75 80

Asp Phe Ser His Ser Ser Ala Gly Glu Leu Arg Ile Thr Ser Ser Phe
85 90 95

Gly Arg Trp Ser Trp Val Arg Gly Ser Trp Tyr Thr Val Phe Ile Val
100 105 110

Ser Leu Ile Gln Asn Ala Asn Lys Phe Asn Val Phe Leu Pro
115 120 125

<210> 13
<211> 1426
<212> DNA
<213> Homo sapiens

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agaacattgt ttaaaagaca taaccataga aaaaaaaaaa aaaaaa 1426

<210> 14
<211> 80
<212> PRT
<213> Homo sapiens

<400> 14
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Ala Leu Ser Asp Pro Cys Thr Pro Leu Met Ser Pro Arg Arg Ala Ser
20 25 30

Cys Ser Ser Pro Ser Ile Tyr Leu Ser Leu Ser Leu Leu Val Gly His
35 40 45

Phe Val Cys Arg Ala Val Glu Asn Arg Thr Ser Glu Leu Asn Ile Cys
50 55 60

Pro Asp Val Lys Val Leu Phe Met Thr Thr Leu Leu Ser Met Tyr Met
65 70 75 80

<210> 15
<211> 2364
<212> DNA
<213> Homo sapiens

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<210> 16
<211> 463
<212> PRT
<213> Homo sapiens

<400> 16
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Lys Ala Glu Ile Arg Tyr Glu Gly Ile Leu Tyr Thr Ile Asp Thr Glu
20 25 30

Asn Ser Thr Val Ala Leu Ala Lys Val Arg Ser Phe Gly Thr Glu Asp
35 40 45

Arg Pro Thr Asp Arg Pro Ile Pro Pro Arg Asp Glu Val Phe Glu Tyr
50 55 60

Ile Ile Phe Arg Gly Ser Asp Ile Lys Asp Leu Thr Val Cys Glu Pro
65 70 75 80

Pro Lys Pro Gln Cys Ser Leu Pro Gln Asp Pro Ala Ile Val Gln Ser
85 90 95

Ser Leu Gly Ser Ser Thr Ser Ser Phe Gln Ser Met Gly Ser Tyr Gly
100 105 110

Pro Phe Gly Arg Met Pro Thr Tyr Ser Gln Phe Ser Pro Ser Ser Leu
115 120 125

Val Gly Gln Gln Phe Gly Ala Val Gly Val Ala Gly Ser Ser Leu Thr
130 135 140

Ser Phe Gly Thr Glu Thr Ser Asn Ser Gly Thr Leu Pro Gln Ser Ser
145 150 155 160

Ala Val Gly Ser Ala Phe Thr Gln Asp Thr Arg Ser Leu Lys Thr Gln
165 170 175

Leu Ser Gln Gly Arg Ser Ser Pro Gln Leu Asp Pro Leu Arg Lys Ser
180 185 190

Pro Thr Met Glu Gln Ala Val Gln Thr Ala Ser Ala His Leu Pro Ala
195 200 205

Pro Ala Ala Val Gly Arg Arg Ser Pro Val Ser Thr Arg Pro Leu Pro
210 215 220

Ser Ala Ser Gln Lys Ala Gly Glu Asn Gln Glu His Arg Gln Ala Glu
225 230 235 240

Val His Lys Val Ser Arg Pro Glu Asn Glu Gln Leu Arg Asn Asp Asn
245 250 255

Lys Arg Gln Val Ala Pro Gly Ala Pro Ser Ala Pro Arg Arg Gly Arg
260 265 270

Gly Gly His Arg Gly Gly Arg Gly Arg Phe Gly Ile Arg Arg Asp Gly
275 280 285

Pro Met Lys Phe Glu Lys Asp Phe Asp Phe Glu Ser Ala Asn Ala Gln
290 295 300

Phe Asn Lys Glu Glu Ile Asp Arg Glu Phe His Asn Lys Leu Lys Leu
305 310 315 320

Lys Glu Asp Lys Leu Glu Lys Gln Glu Lys Pro Val Asn Gly Glu Asp
325 330 335

Lys Gly Asp Ser Gly Val Asp Thr Gln Asn Ser Glu Gly Asn Ala Asp
340 345 350

Glu Glu Asp Pro Leu Gly Pro Asn Cys Tyr Tyr Asp Lys Thr Lys Ser
355 360 365

Phe Phe Asp Asn Ile Ser Cys Asp Asp Asn Arg Glu Arg Arg Pro Thr
370 375 380

Trp Ala Glu Glu Arg Arg Leu Asn Ala Glu Thr Phe Gly Ile Pro Leu
385 390 395 400

Arg Pro Asn Arg Gly Arg Gly Gly Tyr Arg Gly Arg Gly Gly Leu Gly
405 410 415

Phe Arg Gly Gly Arg Gly Arg Gly Gly Gly Arg Gly Gly Thr Phe Thr
420 425 430

Ala Pro Arg Gly Phe Arg Gly Gly Phe Arg Gly Gly Arg Gly Gly Arg
435 440 445

Glu Phe Ala Asp Phe Glu Tyr Arg Lys Thr Thr Ala Phe Gly Pro
450 455 460

<210> 17
<211> 2760
<212> DNA
<213> Homo sapiens

<400> 17
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<210> 18
<211> 660
<212> PRT
<213> Homo sapiens

<400> 18

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Gln Gln Leu Thr Leu Leu Gln Asp Leu Phe Ser Leu Leu His Thr Ala
20 25 30

Ser Pro Arg Val Gln Arg Gln Val Thr Ser Leu Leu Arg Arg Val Leu
35 40 45

Pro Glu Val Thr Pro Ser Arg Leu Ala Ser Ile Ile Gly Val Lys Ser
50 55 60

Leu Pro Pro Ala Asp Ile Ser Asp Ile Ile His Ser Thr Glu Lys Gly
65 70 75 80

Asp Trp Asn Lys Leu Gly Ile Leu Asp Met Phe Leu Gly Cys Ile Ala
85 90 95

Lys Ala Leu Thr Val Gln Leu Lys Ala Lys Gly Thr Thr Ile Thr Gly
100 105 110

Thr Ala Gly Thr Thr Val Gly Lys Gly Val Thr Thr Val Thr Leu Pro
115 120 125

Met Ile Phe Asn Ser Ser Tyr Leu Arg Arg Gly Glu Ser His Trp Trp
130 135 140

Met Lys Gly Ser Thr Pro Thr Gln Ile Ser Glu Ile Ile Ile Lys Leu
145 150 155 160

Ile Lys Asp Met Ala Ala Gly His Leu Ser Glu Ala Trp Ser Arg Val
165 170 175

Thr Lys Asn Ala Ile Ala Glu Thr Ile Ile Ala Leu Thr Lys Met Glu
180 185 190

Glu Glu Phe Arg Ser Pro Val Arg Cys Ile Ala Thr Thr Arg Leu Trp
195 200 205

Leu Ala Leu Ala Ser Leu Cys Val Leu Asp Gln Asp His Val Asp Arg
210 215 220

Leu Ser Ser Gly Arg Trp Met Gly Lys Asp Gly Gln Gln Lys Gln Met
225 230 235 240

Pro Met Cys Asp Asn His Asp Asp Gly Glu Thr Ala Ala Ile Ile Leu
245 250 255

Cys Asn Val Cys Gly Asn Leu Cys Thr Asp Cys Asp Arg Phe Leu His
260 265 270

Leu His Arg Arg Thr Lys Thr His Gln Arg Gln Val Phe Lys Glu Glu
275 280 285

Glu Glu Ala Ile Lys Val Asp Leu His Glu Gly Cys Gly Arg Thr Lys
290 295 300

Leu Phe Trp Leu Met Ala Leu Ala Asp Ser Lys Thr Met Lys Ala Met
305 310 315 320

Val Glu Phe Arg Glu His Thr Gly Lys Pro Thr Thr Ser Ser Ser Glu
325 330 335

Ala Cys Arg Phe Cys Gly Ser Arg Ser Gly Thr Glu Leu Ser Ala Val
340 345 350

Gly Ser Val Cys Ser Asp Ala Asp Cys Gln Glu Tyr Ala Lys Ile Ala
355 360 365

Cys Ser Lys Thr His Pro Cys Gly His Pro Cys Gly Gly Val Lys Asn
370 375 380

Glu Glu His Cys Leu Pro Cys Leu His Gly Cys Asp Lys Ser Ala Thr
385 390 395 400

Ser Leu Lys Gln Asp Ala Asp Asp Met Cys Met Ile Cys Phe Thr Glu
405 410 415

Ala Leu Ser Ala Ala Pro Ala Ile Gln Leu Asp Cys Ser His Ile Phe
420 425 430

His Leu Gln Cys Cys Arg Arg Val Leu Glu Asn Arg Trp Leu Gly Pro
435 440 445

Arg Ile Thr Phe Gly Phe Ile Ser Cys Pro Ile Cys Lys Asn Lys Ile
450 455 460

Asn His Ile Val Leu Lys Asp Leu Leu Asp Pro Ile Lys Glu Leu Tyr
465 470 475 480

Glu Asp Val Arg Arg Lys Ala Leu Met Arg Leu Glu Tyr Glu Gly Leu
485 490 495

His Lys Ser Glu Ala Ile Thr Thr Pro Gly Val Arg Phe Tyr Asn Asp
500 505 510

Pro Ala Gly Tyr Ala Met Asn Arg Tyr Ala Tyr Tyr Val Cys Tyr Lys
515 520 525

Cys Arg Lys Ala Tyr Phe Gly Gly Glu Ala Arg Cys Asp Ala Glu Ala
530 535 540

Gly Arg Gly Asp Asp Tyr Asp Pro Arg Glu Leu Ile Cys Gly Ala Cys
545 550 555 560

Ser Asp Val Ser Arg Ala Gln Met Cys Pro Lys His Gly Thr Asp Phe
565 570 575

Leu Glu Tyr Lys Cys Arg Tyr Cys Cys Ser Val Ala Val Phe Phe Cys
580 585 590

Phe Gly Thr Thr His Phe Cys Asn Ala Cys His Asp Asp Phe Gln Arg
595 600 605

Met Thr Ser Ile Pro Lys Glu Glu Leu Pro His Cys Pro Ala Gly Pro
610 615 620

Lys Gly Lys Gln Leu Glu Gly Thr Glu Cys Pro Leu His Val Val His
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Pro Pro Thr Gly Glu Glu Phe Ala Leu Gly Cys Gly Val Cys Arg Asn
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Ala His Thr Phe
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<212> DNA
<213> Homo sapiens

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<212> PRT
<213> Homo sapiens

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Tyr Ile Asn Ile Ser Ile Phe Phe Leu Gln Asn Gln Phe Ile Asn Gly
35 40 45

Arg Gly Val Trp Gly Gly His Met Glu Leu Pro Leu Trp Gly Gly Pro
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Leu His Tyr Pro Thr Tyr Arg Pro Phe Pro His Pro Pro Pro His Ser
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Pro Pro Pro Gly Cys Asp Cys Cys Lys Met Gly Val
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<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

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Ser Lys Ala Pro Ala Ser Ser Ser Ser Asn Pro Glu Glu Val Gln Lys
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Glu Gly Pro Thr Ala Leu Gln Asp Ser Asn Ser Gly Glu Pro Asp Ile
     50                  55                  60

Pro Pro Pro Gln Pro Asp Cys Gly Asp Phe Arg Ser Leu Gln Glu Glu
 65                  70                  75                  80

Gln Ser Arg Pro Thr Thr Ala Val Ser Ser Pro Gly Gly Pro Ala Arg
                 85                  90                  95

Ala Pro Pro Tyr Gln Glu Pro Pro Trp Gly Gly Pro Ala Thr Ala Pro
            100                 105                 110

Tyr Ser Leu Glu Thr Leu Lys Gly Gly Thr Ile Leu Gly Thr Arg Ser
        115                 120                 125

Leu Lys Gly Thr Ser Tyr Cys Leu Phe Gly Arg Leu Ser Gly Cys Asp
    130                 135                 140

Val Cys Leu Glu His Pro Ser Val Ser Arg Tyr His Ala Val Leu Gln
145                 150                 155                 160

His Arg Ala Ser Gly Pro Asp Gly Glu Cys Asp Ser Asn Gly Pro Gly
                165                 170                 175

Phe Tyr Leu Tyr Asp Leu Gly Ser Thr His Gly Thr Phe Leu Asn Lys
            180                 185                 190

Thr Arg Ile Pro Pro Arg Thr Tyr Cys Arg Val His Val Gly His Val
        195                 200                 205

Val Arg Phe Gly Gly Ser Thr Arg Leu Phe Ile Leu Gln Gly Pro Glu
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Glu Asp Arg Glu Ala Glu Ser Glu Leu Thr Val Thr Gln Leu Lys Glu
225                 230                 235                 240

Leu Arg Lys Gln Gln Gln Ile Leu Leu Xaa Lys Lys Met Leu Gly Glu
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Asp Ser Asp Glu Glu Glu Glu Met Asp Thr Ser Glu Arg Lys Ile Asn
            260                 265                 270
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Asp Ala Val Glu Asp Asp Ala Glu Glu Asn Pro Ile Val Leu Glu Phe
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Gln Gln Glu Arg Glu Ala Phe Tyr Ile Lys Asp Pro Lys Lys Ala Leu
305 310 315 320

Gln Gly Phe Phe Asp Arg Glu Gly Glu Glu Leu Glu Tyr Glu Phe Asp
325 330 335

Glu Gln Gly His Ser Thr Trp Leu Cys Arg Val Arg Leu Pro Val Asp
340 345 350

Asp Ser Thr Gly Lys Gln Leu Val Ala Glu Ala Ile His Ser Gly Lys
355 360 365

Lys Lys Glu Ala Met Ile Gln Cys Ser Leu Glu Ala Cys Arg Ile Leu
370 375 380

Asp Thr Leu Gly Leu Leu Arg Gln Glu Ala Val Ser Arg Lys Arg Lys
385 390 395 400

Ala Lys Asn Trp Glu Asp Glu Asp Phe Tyr Asp Ser Asp Asp Asp Thr
405 410 415

Phe Leu Asp Arg Thr Gly Leu Ile Glu Lys Lys Arg Leu Asn Arg Met
420 425 430

Lys Lys Ala Gly Lys Ile Asp Glu Lys Pro Glu Thr Phe Glu Ser Leu
435 440 445

Val Ala Lys Leu Asn Asp Ala Glu Arg Glu Leu Ser Glu Ile Ser Glu
450 455 460

Arg Leu Lys Ala Ser Ser Gln Val Leu Ser Glu Ser Pro Ser Gln Asp
465 470 475 480

Ser Leu Asp Ala Phe Met Ser Glu Met Lys Ser Gly Ser Thr Leu Asp
485 490 495

Gly Val Ser Arg Lys Lys Leu His Leu Arg Thr Phe Glu Leu Arg Lys
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Glu Gln Gln Arg Leu Lys Gly Leu Ile Lys Ile Val Lys Pro Ala Glu
515 520 525

Ile Pro Glu Leu Lys Lys Thr Glu Thr Gln Thr Thr Gly Ala Glu Asn
530 535 540

Lys Ala Lys Lys Leu Thr Leu Pro Leu Phe Gly Ala Met Lys Gly Gly
545 550 555 560

Ser Lys Phe Lys Leu Lys Thr Gly Thr Val Gly Lys Leu Pro Pro Lys
565 570 575

Arg Pro Glu Leu Pro Pro Thr Leu Met Arg Met Lys Asp Glu Pro Glu
580 585 590

Val Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Lys Glu Lys Glu
595 600 605

Glu His Glu Lys Lys Lys Leu Glu Asp Gly Ser Leu Ser Arg Pro Gln
610 615 620

Pro Glu Ile Glu Pro Glu Ala Ala Val Gln Glu Met Arg Pro Pro Thr
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Asp Leu Thr His Phe Lys Glu Thr Gln Thr His Gly Asn Ile Phe Leu
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Leu Leu Pro Val Leu Phe Ser Gly Gln Leu His
660 665

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<211> 2402
<212> DNA
<213> Homo sapiens

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<212> PRT
<213> Homo sapiens

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35 40 45

Ser Arg Val Ala Thr Ser Thr Asp Pro Ser Cys Ser Gly Phe Ala Pro
50 55 60

Pro Asp Phe Asn His Cys Leu Lys Asp Trp Asp Tyr Asn Gly Leu Pro
65 70 75 80

Val Leu Thr Thr Asn Ala Ile Gly Gln Trp Asp Leu Val Cys Asp Leu
85 90 95

Gly Trp Gln Val Ile Leu Glu Gln Ile Leu Phe Ile Leu Gly Phe Ala
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Ser Gly Tyr Leu Phe Leu Gly Tyr Pro Ala Asp Arg Phe Gly Arg Arg
115 120 125

Gly Ile Val Leu Leu Thr Leu Gly Leu Val Gly Pro Cys Gly Val Gly
130 135 140

Gly Ala Ala Ala Gly Ser Ser Thr Gly Val Met Ala Leu Arg Phe Leu
145 150 155 160

Leu Gly Phe Leu Leu Ala Gly Val Asp Leu Gly Val Tyr Leu Met Arg
165 170 175

Leu Glu Leu Cys Asp Pro Thr Gln Arg Leu Arg Val Ala Leu Ala Gly
180 185 190

Glu Leu Val Gly Val Gly Gly His Phe Leu Phe Leu Gly Leu Ala Leu
195 200 205

Val Ser Lys Asp Trp Arg Phe Leu Gln Arg Met Ile Thr Ala Pro Cys
210 215 220

Ile Leu Phe Leu Phe Tyr Gly Trp Pro Gly Leu Phe Leu Glu Ser Ala
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Arg Trp Leu Ile Val Lys Arg Gln Ile Glu Glu Ala Gln Ser Val Leu
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Arg Ile Leu Ala Glu Arg Asn Arg Pro His Gly Gln Met Leu Gly Glu
260 265 270

Glu Ala Gln Glu Ala Leu Gln Asp Leu Glu Asn Thr Cys Pro Leu Pro
275 280 285

Ala Thr Ser Ser Phe Ser Phe Ala Ser Leu Leu Asn Tyr Arg Asn Ile
290 295 300

Trp Lys Asn Leu Leu Ile Leu Gly Phe Thr Asn Phe Ile Ala His Ala
305 310 315 320

Ile Arg His Cys Tyr Gln Pro Val Gly Gly Gly Gly Ser Pro Ser Asp
325 330 335

Phe Tyr Leu Cys Ser Leu Leu Ala Ser Gly Thr Ala Ala Leu Ala Cys
340 345 350

Val Phe Leu Gly Val Thr Val Asp Arg Phe Gly Arg Arg Gly Ile Leu
355 360 365

Leu Leu Ser Met Thr Leu Thr Gly Ile Ala Ser Leu Val Leu Leu Gly
370 375 380

Leu Trp Asp Tyr Leu Asn Glu Ala Ala Ile Thr Thr Phe Ser Val Leu
385 390 395 400

Gly Leu Phe Ser Ser Gln Ala Ala Ala Ile Leu Ser Thr Leu Leu Ala
405 410 415

Ala Glu Val Ile Pro Thr Thr Val Arg Gly Arg Gly Leu Gly Leu Ile
420 425 430

Met Ala Leu Gly Ala Leu Gly Gly Leu Ser Gly Pro Ala Gln Arg Leu
435 440 445

His Met Gly His Gly Ala Phe Leu Gln His Val Val Leu Ala Ala Cys
450 455 460

Ala Leu Leu Cys Ile Leu Ser Ile Met Leu Leu Pro Glu Thr Lys Arg
465 470 475 480

Lys Leu Leu Pro Glu Val Leu Arg Asp Gly Glu Leu Cys Arg Arg Pro
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Ser Leu Leu Arg Gln Pro Pro Pro Thr Arg Cys Asp His Val Pro Leu
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<211> 2377
<212> DNA
<213> Homo sapiens

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<210> 26
<211> 351
<212> PRT
<213> Homo sapiens

<400> 26
Met His Leu Tyr Lys Thr Asn Lys Met Thr Ser Leu Lys Glu Asp Val
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Arg Arg Ser Ala Met Leu Cys Ile Leu Thr Val Pro Ala Ala Met Thr
20 25 30

Ser His Asp Leu Met Lys Phe Val Ala Pro Phe Asn Glu Val Ile Glu
35 40 45

Gln Met Lys Ile Ile Arg Asp Ser Thr Pro Asn Gln Tyr Met Val Leu
50 55 60

Ile Lys Phe Arg Ala Gln Ala Asp Ala Asp Ser Phe Tyr Met Thr Cys
65 70 75 80

Asn Gly Arg Gln Phe Asn Ser Ile Glu Asp Asp Val Cys Gln Leu Val
85 90 95

Tyr Val Glu Arg Ala Glu Val Leu Lys Ser Glu Asp Gly Ala Ser Leu
100 105 110

Pro Val Met Asp Leu Thr Glu Leu Pro Lys Cys Thr Val Cys Leu Glu
115 120 125

Arg Met Asp Glu Ser Val Asn Gly Ile Leu Thr Thr Leu Cys Asn His
130 135 140

Ser Phe His Ser Gln Cys Leu Gln Arg Trp Asp Asp Thr Thr Cys Pro
145 150 155 160

Val Cys Arg Tyr Cys Gln Thr Pro Glu Pro Val Glu Glu Asn Lys Cys
165 170 175

Phe Glu Cys Gly Val Gln Glu Asn Leu Trp Ile Cys Leu Ile Cys Gly
180 185 190

His Ile Gly Cys Gly Arg Tyr Val Ser Arg His Ala Tyr Lys His Phe
195 200 205

Glu Glu Thr Gln His Thr Tyr Ala Met Gln Leu Thr Asn His Arg Val
210 215 220

Trp Asp Tyr Ala Gly Asp Asn Tyr Val His Arg Leu Val Ala Ser Lys
225 230 235 240

Thr Asp Gly Lys Ile Val Gln Tyr Glu Cys Glu Gly Asp Thr Cys Gln
245 250 255

Glu Glu Lys Ile Asp Ala Leu Gln Leu Glu Tyr Ser Tyr Leu Leu Thr
260 265 270

Ser Gln Leu Glu Ser Gln Arg Ile Tyr Trp Glu Asn Lys Ile Val Arg
275 280 285

Ile Glu Lys Asp Thr Ala Glu Glu Ile Asn Asn Met Lys Thr Lys Phe
290 295 300

Lys Glu Thr Ile Glu Lys Cys Asp Asn Leu Glu His Lys Leu Asn Asp
305 310 315 320

Leu Leu Lys Glu Lys Gln Ser Val Glu Arg Lys Cys Thr Gln Leu Asn
325 330 335

Thr Lys Val Ala Lys Leu Lys Ser Gln Ser Gly Tyr Pro Ser Ile
340 345 350

<210> 27
<211> 460
<212> DNA
<213> Homo sapiens

<400> 27
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catgcagact tttttaacga ttttgaagat ctttttgatg atgatgacat ccagtgagat 180
gccctctggc tgcaggcggg gccaagccct tggtacagag ccgcagtgtg agcctgcgca 240

ggacagtttc aggtggtttt aaagaacacg tggaaatccc ttgaatttag gacctggtta 300
accagaaaga taagactgtt cttaacgacc tagatgattc tgttcatctc tgaacgggat 360
caggttttgt cctcactcca attaaaagaa agcaatgtca catgaaaaaa aaaaaaaaaa 420
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 460

<210> 28
<211> 85
<212> PRT
<213> Homo sapiens

<400> 28
Met Lys Pro Ala Val Asp Glu Met Phe Pro Glu Gly Ala Gly Pro Tyr
1 5 10 15

Val Asp Leu Asp Glu Ala Gly Gly Ser Thr Gly Leu Leu Met Asp Leu
20 25 30

Ala Ala Asn Glu Lys Pro Phe Met Gln Thr Phe Leu Thr Ile Leu Lys
35 40 45

Ile Phe Leu Met Met Met Thr Ser Ser Glu Met Pro Ser Gly Cys Arg
50 55 60

Arg Gly Gln Ala Leu Gly Thr Glu Pro Gln Cys Glu Pro Ala Gln Asp
65 70 75 80

Ser Phe Arg Trp Phe
85

<210> 29
<211> 3204
<212> DNA
<213> Homo sapiens

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aatctttgac cagttactgg agtttgttac tgaaggatca cattttgttg aagcaacata 180
taagaatccg gaacttgatc gaatagccac tgaagatgat ctggtagaaa tgcaaggata 240
taaagacaag ctttccatca ttggtgaggt gctatctcgg agacacatga aggtggcatt 300
ttttggcagg acaagcagtg ggaagagctc tgttatcaat gcaatgttgt gggataaagt 360
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tcaactggcc catgcccttc acatggacaa agatttgaaa gctggctgtc ttgtacgtgt 540
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<210> 30
<211> 741
<212> PRT
<213> Homo sapiens

<400> 30
Met Ala Glu Pro Val Ser Pro Leu Lys His Phe Val Leu Ala Lys Lys
1 5 10 15

Ala Ile Thr Ala Ile Phe Asp Gln Leu Leu Glu Phe Val Thr Glu Gly
20 25 30

Ser His Phe Val Glu Ala Thr Tyr Lys Asn Pro Glu Leu Asp Arg Ile
35 40 45

Ala Thr Glu Asp Asp Leu Val Glu Met Gln Gly Tyr Lys Asp Lys Leu
50 55 60

Ser Ile Ile Gly Glu Val Leu Ser Arg Arg His Met Lys Val Ala Phe
65 70 75 80

Phe Gly Arg Thr Ser Ser Gly Lys Ser Ser Val Ile Asn Ala Met Leu
85 90 95

Trp Asp Lys Val Leu Pro Ser Gly Ile Gly His Ile Thr Asn Cys Phe
100 105 110

Leu Ser Val Glu Gly Thr Asp Gly Asp Lys Ala Tyr Leu Met Thr Glu
115 120 125

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Gly Ser Asp Glu Lys Lys Ser Val Lys Thr Val Asn Gln Leu Ala His
    130                 135                 140

Ala Leu His Met Asp Lys Asp Leu Lys Ala Gly Cys Leu Val Arg Val
145                 150                 155                 160

Phe Trp Pro Lys Ala Lys Cys Ala Leu Leu Arg Asp Asp Leu Val Leu
                165                 170                 175

Val Asp Ser Pro Gly Thr Asp Val Thr Thr Glu Leu Asp Ser Trp Ile
            180                 185                 190

Asp Lys Phe Cys Leu Asp Ala Asp Val Phe Val Leu Val Ala Asn Ser
        195                 200                 205

Glu Ser Thr Leu Met Asn Thr Glu Lys His Phe Phe His Lys Val Asn
    210                 215                 220

Glu Arg Leu Ser Lys Pro Asn Ile Phe Ile Leu Asn Asn Arg Trp Asp
225                 230                 235                 240

Ala Ser Ala Ser Glu Pro Glu Tyr Met Glu Asp Val Arg Arg Gln His
                245                 250                 255

Met Glu Arg Cys Leu His Phe Leu Val Glu Glu Leu Lys Val Val Asn
            260                 265                 270

Ala Leu Glu Ala Gln Asn Arg Ile Phe Phe Val Ser Ala Lys Glu Val
        275                 280                 285

Leu Ser Ala Arg Lys Gln Lys Ala Gln Gly Met Pro Glu Ser Gly Val
    290                 295                 300

Ala Leu Ala Glu Gly Phe His Ala Arg Leu Gln Glu Phe Gln Asn Phe
305                 310                 315                 320

Glu Gln Ile Phe Glu Glu Cys Ile Ser Gln Ser Ala Val Lys Thr Lys
                325                 330                 335

Phe Glu Gln His Thr Ile Arg Ala Lys Gln Ile Leu Ala Thr Val Lys
            340                 345                 350

Asn Ile Met Asp Ser Val Asn Leu Ala Ala Glu Asp Lys Arg His Tyr
        355                 360                 365

Ser Val Glu Glu Arg Glu Asp Gln Ile Asp Arg Leu Asp Phe Ile Arg
    370                 375                 380

Asn Gln Met Asn Leu Leu Thr Leu Asp Val Lys Lys Lys Ile Lys Glu
385                 390                 395                 400

Val Thr Glu Glu Val Ala Asn Lys Val Ser Cys Ala Met Thr Asp Glu
                405                 410                 415

Ile Cys Arg Leu Ser Val Leu Val Asp Glu Phe Cys Ser Glu Phe His
            420                 425                 430

Pro Asn Pro Asp Val Leu Lys Ile Tyr Lys Ser Glu Leu Asn Lys His
        435                 440                 445
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Ile Glu Asp Gly Met Gly Arg Asn Leu Ala Asp Arg Cys Thr Asp Glu
    450                 455                 460

Val Asn Ala Leu Val Pro Gln Thr Gln Gln Glu Ile Ile Glu Asn Leu
465                 470                 475                 480

Lys Pro Leu Leu Pro Ala Gly Ile Gln Asp Lys Leu His Thr Leu Ile
                485                 490                 495

Pro Cys Lys Lys Phe Asp Leu Ser Tyr Asn Leu Asn Tyr His Lys Leu
            500                 505                 510

Cys Ser Asp Phe Gln Glu Asp Ile Val Phe Arg Phe Ser Leu Gly Trp
        515                 520                 525

Ser Ser Leu Val His Arg Phe Leu Gly Pro Arg Asn Ala Gln Arg Val
    530                 535                 540

Leu Leu Gly Leu Ser Glu Pro Ile Phe Gln Leu Pro Arg Ser Leu Ala
545                 550                 555                 560

Ser Thr Pro Thr Ala Pro Thr Thr Pro Ala Thr Pro Asp Asn Ala Ser
                565                 570                 575

Gln Glu Glu Leu Met Ile Thr Leu Val Thr Gly Leu Ala Ser Val Thr
            580                 585                 590

Ser Arg Thr Ser Met Gly Ile Ile Ile Val Gly Gly Val Ile Trp Lys
        595                 600                 605

Thr Ile Gly Trp Lys Leu Leu Ser Val Ser Leu Thr Met Tyr Gly Ala
    610                 615                 620

Leu Tyr Leu Tyr Glu Arg Leu Ser Trp Thr Thr His Ala Lys Glu Arg
625                 630                 635                 640

Ala Phe Lys Gln Gln Phe Val Asn Tyr Ala Thr Glu Lys Leu Arg Met
                645                 650                 655

Ile Val Ser Ser Thr Ser Ala Asn Cys Ser His Gln Val Lys Gln Gln
            660                 665                 670

Ile Ala Thr Thr Phe Ala Arg Leu Cys Gln Gln Val Asp Ile Thr Gln
        675                 680                 685

Lys Gln Leu Glu Glu Glu Ile Ala Arg Leu Pro Lys Glu Ile Asp Gln
    690                 695                 700

Leu Glu Lys Ile Gln Asn Asn Ser Lys Leu Leu Arg Asn Lys Ala Val
705                 710                 715                 720

Gln Leu Glu Asn Glu Leu Glu Asn Phe Thr Lys Gln Phe Leu Pro Ser
                725                 730                 735

Ser Asn Glu Asp Ser
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<210> 31

<211> 2483
<212> DNA
<213> Homo sapiens

<400> 31
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ctgcaccagt tcctggagtt gcccagcagg gtgtttcctt gcagcctgga accacccaga 240
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cagacttgca gggaaaaaat atccagacat tcttgagaaa tggtcttctg aggaagctgt 480
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<210> 32
<211> 654
<212> PRT
<213> Homo sapiens

<400> 32
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Leu Ala Ser Ser Ser Thr Ala Ala Ala Ala Thr Leu Ser Leu Ala Asn
20 25 30

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Ser Asp Val Ser Leu Leu Asn Tyr Gln Ser Ala Leu Tyr Pro Ser Ser
          35                  40                  45

Ala Ala Pro Val Pro Gly Val Ala Gln Gln Gly Val Ser Leu Gln Pro
      50                  55                  60

Gly Thr Thr Gln Ile Cys Thr Gln Thr Asp Pro Phe Gln Gln Thr Phe
 65                  70                  75                  80

Ile Val Cys Pro Pro Ala Phe Gln Thr Gly Leu Gln Ala Thr Thr Lys
                 85                  90                  95

His Ser Gly Phe Pro Val Arg Met Asp Asn Ala Val Pro Ile Val Pro
            100                 105                 110

Gln Ala Pro Ala Ala Gln Pro Thr Thr Asp Ser Val Arg Ser Ser His
        115                 120                 125

Ala Asp Leu Gln Gly Lys Asn Ile Gln Thr Phe Leu Arg Asn Gly Leu
    130                 135                 140

Leu Arg Lys Leu Tyr Thr Thr Asn Gly Ser Asn Ser Pro Pro Ser Ser
145                 150                 155                 160

Ser His Ile Thr Pro Gln Tyr Ala Val Pro Phe Thr Leu Ser Cys Ala
                165                 170                 175

Ala Gly Arg Pro Ala Leu Val Glu Gln Thr Ala Ala Val Leu Gln Ala
            180                 185                 190

Trp Pro Gly Gly Thr Gln Gln Ile Leu Leu Pro Ser Thr Trp Gln Gln
        195                 200                 205

Leu Pro Gly Val Ala Leu His Asn Ser Val Gln Pro Thr Ala Met Ile
    210                 215                 220

Pro Glu Ala Met Gly Ser Gly Gln Gln Leu Ala Asp Trp Arg Asn Ala
225                 230                 235                 240

His Ser His Gly Asn Gln Tyr Ser Thr Ile Met Gln Gln Pro Ser Leu
                245                 250                 255

Leu Thr Asn His Val Thr Leu Ala Thr Ala Gln Pro Leu Asn Val Gly
            260                 265                 270

Val Ala His Val Val Arg Gln Gln Gln Ser Ser Ser Leu Pro Ser Lys
        275                 280                 285

Lys Asn Lys Gln Ser Ala Pro Val Ser Ser Lys Ser Ser Leu Asp Val
    290                 295                 300

Leu Pro Ser Gln Val Tyr Ser Leu Val Gly Ser Ser Pro Leu Arg Thr
305                 310                 315                 320

Thr Ser Ser Tyr Asn Ser Leu Val Pro Val Gln Asp Gln His Gln Pro
                325                 330                 335

Ile Ile Ile Pro Asp Thr Pro Ser Pro Pro Val Ser Val Ile Thr Ile
            340                 345                 350
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Arg Ser Asp Thr Asp Glu Glu Glu Asp Asn Lys Tyr Lys Pro Ser Ser
355 360 365

Ser Gly Leu Lys Pro Arg Ser Asn Val Ile Ser Tyr Val Thr Val Asn
370 375 380

Asp Ser Pro Asp Ser Asp Ser Ser Leu Ser Ser Pro Tyr Ser Thr Asp
385 390 395 400

Thr Leu Ser Ala Leu Arg Gly Asn Ser Gly Ser Val Leu Glu Gly Pro
405 410 415

Gly Arg Val Val Ala Asp Gly Thr Gly Thr Arg Thr Ile Ile Val Pro
420 425 430

Pro Leu Lys Thr Gln Leu Gly Asp Cys Thr Val Ala Thr Gln Ala Ser
435 440 445

Gly Leu Leu Ser Asn Lys Thr Lys Pro Val Ala Ser Val Ser Gly Gln
450 455 460

Ser Ser Gly Cys Cys Ile Thr Pro Thr Gly Tyr Arg Ala Gln Arg Gly
465 470 475 480

Gly Thr Ser Ala Ala Gln Pro Leu Asn Leu Ser Gln Asn Gln Gln Ser
485 490 495

Ser Ala Ala Pro Thr Ser Gln Glu Arg Ser Ser Asn Pro Ala Pro Arg
500 505 510

Arg Gln Gln Ala Phe Val Ala Pro Leu Ser Gln Ala Pro Tyr Thr Phe
515 520 525

Gln His Gly Ser Pro Leu His Ser Thr Gly His Pro His Leu Ala Pro
530 535 540

Ala Pro Ala His Leu Pro Ser Gln Ala His Leu Tyr Thr Tyr Ala Ala
545 550 555 560

Pro Thr Ser Ala Ala Ala Leu Gly Ser Thr Ser Ser Ile Ala His Leu
565 570 575

Phe Ser Pro Gln Gly Ser Ser Arg His Ala Ala Ala Tyr Thr Thr His
580 585 590

Pro Ser Thr Leu Val His Gln Val Pro Val Ser Val Gly Pro Ser Leu
595 600 605

Leu Thr Ser Ala Ser Val Ala Pro Ala Gln Tyr Gln His Gln Phe Ala
610 615 620

Thr Gln Ser Tyr Ile Gly Ser Ser Arg Gly Ser Thr Ile Tyr Thr Gly
625 630 635 640

Tyr Pro Leu Ser Pro Thr Lys Ile Ser Gln Tyr Ser Tyr Leu
645 650

<210> 33
<211> 2731

<212> DNA
<213> Homo sapiens

<220>
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<222> (2173)

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<221> unsure
<222> (2700)

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<213> Homo sapiens

<400> 34

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Thr Val Ala Ala Ala Asp Arg Ser Lys Trp His Ile Pro Ile Pro Ser
        35                  40                  45

Gly Lys Asn Tyr Phe Ser Phe Gly Lys Ile Leu Phe Arg Asn Thr Thr
    50                  55                  60

Ile Phe Leu Lys Phe Asp Gly Glu Pro Cys Asp Leu Ser Leu Asn Ile
65                  70                  75                  80

Thr Trp Tyr Leu Lys Ser Ala Asp Cys Tyr Asn Glu Ile Tyr Asn Phe
                85                  90                  95

Lys Ala Glu Glu Val Glu Leu Tyr Leu Glu Lys Leu Lys Glu Lys Arg
            100                 105                 110

Gly Leu Ser Gly Lys Tyr Gln Thr Ser Ser Lys Leu Phe Gln Asn Cys
        115                 120                 125

Ser Glu Leu Phe Lys Thr Gln Thr Phe Ser Gly Asp Phe Met His Arg
    130                 135                 140

Leu Pro Leu Leu Gly Glu Lys Gln Glu Ala Lys Glu Asn Gly Thr Asn
145                 150                 155                 160

Leu Thr Phe Ile Gly Asp Lys Thr Ala Met His Glu Pro Leu Gln Thr
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Trp Gln Asp Ala Pro Tyr Ile Phe Ile Val His Ile Gly Ile Ser Ser
            180                 185                 190

Ser Lys Glu Ser Ser Lys Glu Asn Ser Leu Ser Asn Leu Phe Thr Met
        195                 200                 205

Thr Val Glu Val Lys Gly Pro Tyr Glu Tyr Leu Thr Leu Glu Asp Tyr
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Pro Leu Met Ile Phe Phe Met Val Met Cys Ile Val Tyr Val Leu Phe
225                 230                 235                 240

Gly Val Leu Trp Leu Ala Trp Ser Ala Cys Tyr Trp Arg Asp Leu Leu
                245                 250                 255

Arg Ile Gln Phe Trp Ile Gly Ala Val Ile Phe Leu Gly Met Leu Glu
            260                 265                 270

Lys Ala Val Phe Tyr Ala Glu Phe Gln Asn Ile Arg His Lys Gly Glu
        275                 280                 285

Ser Val Gln Gly Ala Leu Ile Leu Ala Glu Leu Leu Ser Ala Val Lys
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290 295 300

Arg Ser Leu Ala Arg Thr Leu Val Ile Ile Val Ser Leu Gly Tyr Gly
305 310 315 320

Ile Val Lys Pro Arg Leu Gly Val Thr Leu His Lys Val Val Val Ala
325 330 335

Gly Ala Leu Tyr Leu Leu Phe Ser Gly Met Glu Gly Val Leu Arg Val
340 345 350

Thr Gly Ala Gln Thr Asp Leu Ala Ser Leu Ala Phe Ile Pro Leu Ala
355 360 365

Phe Leu Asp Thr Ala Leu Cys Trp Trp Ile Phe Ile Ser Leu Thr Gln
370 375 380

Thr Met Lys Leu Leu Lys Leu Arg Arg Asn Ile Val Lys Leu Ser Leu
385 390 395 400

Tyr Arg His Phe Thr Asn Thr Leu Ile Leu Ala Val Ala Ala Ser Ile
405 410 415

Val Phe Ile Ile Trp Thr Thr Met Lys Phe Arg Ile Val Thr Cys Gln
420 425 430

Ser Val Ser Tyr Lys His Ile Tyr Glu
435 440

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<212> DNA
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<211> 164
<212> PRT
<213> Homo sapiens

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Pro Arg Lys Ala Phe Ser Ala Ile Val Gly Pro Ser Leu Gly Pro Asp
20 25 30

Ser Thr Pro Gly Trp Gly Thr Gly Glu Trp Ala Thr Gly Gly Ala Ile
35 40 45

Leu Gly Arg Pro Thr Pro Cys Ala Val Pro Gly Thr Gly Phe Ser Leu
50 55 60

Leu Ser Thr Cys Ser Ser Pro Arg Gly Pro Val Pro Glu Thr Gly Arg
65 70 75 80

Gly Trp Arg Val Pro Thr Pro Cys Ser Leu Pro Asp Leu Leu Arg Asp
85 90 95

Asp Asp Ala Val Cys Val Pro His Val Gly Pro Pro Pro Ala Cys His
100 105 110

Leu Asn Ala Leu His Gly Pro Val Cys Gly Thr Gly Gly Gln Val Gln
115 120 125

Trp Cys Ala Glu Leu His Trp Glu Asp Phe Gln Arg Gly Arg Ala Ala
130 135 140

Gly Ile Leu Arg Trp Ile Asn Pro Ser Pro Pro Gly Arg Cys Gly Phe
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<211> 1493
<212> DNA
<213> Homo sapiens

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<221> unsure
<222> (1415)

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<210> 38
<211> 132
<212> PRT
<213> Homo sapiens

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20 25 30

Leu Ile Ala Tyr Cys Ser Gln Leu Ala Ala Gly Thr Cys Glu Ile Val
35 40 45

Thr Leu Asp Arg Asp Ser Ser Gln Pro Arg Arg Thr Ile Ala Arg Gln
50 55 60

Thr Ala Arg Cys Ala Cys Arg Lys Gly Gln Ile Ala Gly Thr Thr Arg
65 70 75 80

Ala Arg Pro Ala Cys Val Asp Ala Arg Ile Ile Lys Thr Lys Gln Trp
85 90 95

Cys Asp Met Leu Pro Cys Leu Glu Gly Glu Gly Cys Asp Leu Leu Ile
100 105 110

Asn Arg Ser Gly Trp Thr Cys Thr Gln Pro Gly Gly Arg Ile Lys Thr
115 120 125

Thr Thr Val Ser
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<211> 3693
<212> DNA
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<212> PRT
<213> Homo sapiens

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Leu Pro Glu Gln Val Ala Glu Asp Ala Ile Asp Trp Gly Asp Phe Gly
35 40 45

Val Glu Ala Val Ser Glu Gly Thr Asp Ser Gly Ile Ser Ala Glu Ala
50 55 60

Ala Gly Ile Asp Trp Gly Ile Phe Pro Glu Ser Asp Ser Lys Asp Pro
65 70 75 80

Gly Gly Asp Gly Ile Asp Trp Gly Asp Asp Ala Val Ala Leu Gln Ile
85 90 95

Thr Val Leu Glu Ala Gly Thr Gln Ala Pro Glu Gly Val Ala Arg Gly
100 105 110

Pro Asp Ala Leu Thr Leu Leu Glu Tyr Thr Glu Thr Arg Asn Gln Phe
115 120 125

Leu Asp Glu Leu Met Glu Leu Glu Ile Phe Leu Ala Gln Arg Ala Val
130 135 140

Glu Leu Ser Glu Glu Ala Asp Val Leu Ser Val Ser Gln Phe Gln Leu
145 150 155 160

Ala Pro Ala Ile Leu Gln Gly Gln Thr Lys Glu Lys Met Val Thr Met
165 170 175

Val Ser Val Leu Glu Asp Leu Ile Gly Lys Leu Thr Ser Leu Gln Leu
180 185 190

Gln His Leu Phe Met Ile Leu Ala Ser Pro Arg Ser Gly Phe Pro Leu
195 200 205

Met Gln Gly Ser Ala Ile Leu Ser Ser Ser Ala Ser Leu Tyr Ser Ser
210 215 220

Ser Cys Ser Met Thr Pro
225 230

<210> 41
<211> 1701
<212> DNA
<213> Homo sapiens

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<212> PRT
<213> Homo sapiens

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Met Lys Asp Val Gly Pro Glu Ser Cys Gly Gln Pro Thr Pro Cys Trp
1 5 10 15

Pro Ser Pro Ala Leu Glu Ser Val Leu Gly Lys Ala Ser Gln His Leu
20 25 30

Gly Leu Glu Ser Gly Gln Pro Leu Tyr Leu Leu Glu Leu Asn Trp Gly
35 40 45

Gly Thr Glu Cys Val Leu Ser Ser Thr Gly Arg Thr Ala Ala Cys Phe
50 55 60

Leu Pro Thr Ser Leu Leu Pro Thr Ser Pro Ala Ala Trp Leu Gly Pro
65 70 75 80

Glu Ala Leu Cys Leu Pro Gly Arg Pro Gly Thr Thr Gly Leu Arg Asp
85 90 95

Thr Gly Gly Pro Leu Leu Leu Pro Pro Pro Thr Leu Leu Gln Asp Thr
100 105 110

Thr Arg Trp Cys Trp Met Leu Val Leu Trp Pro Ala Lys Val His Gly
115 120 125

Asp Ser Pro His Gly Ile Leu Arg Asp Gln Ala Ala Gly Ile Gly Lys
130 135 140

Glu Phe His Pro Asp Arg Cys Pro Ser Gln Val Pro Arg Arg Pro His
145 150 155 160

His Thr Pro Phe Gln Gly Gln Gly Ser Ser Lys Pro Arg Ala Arg Ile
165 170 175

Leu Cys Cys Cys Leu Val Glu Ser Leu Pro Pro Cys Val Gly Ser Val
180 185 190

Gly Gln Ala Glu Cys Ile Gly Asp Arg Ala Val Ser Met Gly Leu Gly
195 200 205

Val Cys Glu Leu Arg Pro Arg Cys Ala Val Trp Arg Arg Val Leu Ser
210 215 220

Gly Lys Arg Cys Gly Phe Lys Val Cys Val Cys Arg Gly Trp Val Cys
225 230 235 240

<210> 43
<211> 1784
<212> DNA
<213> Homo sapiens

<400> 43
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cttgctgaat taaatattta tgagtggtgc atttttaagt atagtgaaca agacaccata 180
ttaagtacag tgataaagca tctatattct gtaaaaaaaa aaaaaatctg cctatgcatg 240
ttttttaaga aaaaaaaaat ggctgtatcg gcctgtatgg gactgtaatg cgcttagtgg 300
tctgacatat actggaaatg tatgtatact ggcgtacttt atattctcta aaatgcttaa 360
tgcctttgaa attttgtaat caaaaaaaag ctttgaaaaa tctaaagggg agagtattct 420
ttaaagtttt taacataagc ttgtcaatgc acatgtagat ggttagcatg tttagcaaac 480
cttgtgaaat tataataagt ttgtagttac atgtgaaact ctaaatgcat ggcaactgtt 540
aatgtcataa cagtttagtt attttgttct gttctgtcat gtgccacaaa atatgtactt 600
ttttcacttt tttccctttg tatatcagtt acgggttaca actggttcat tctgaaaaca 660
acaacaacaa aagtccattc atatttttta acaattgtat aagtgcccaa gtaattcact 720
acagcctaaa gccttgcctt tgtaatttga cttctgacat gttggcaatc aaagcatgca 780
cttgtaacaa tgaaaaagaa aaagcatttt atattactac tcaataaaat gtgcatgaac 840
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gtgtcttcta ggtgctggcc caccaccaca catcacaggc tgatttccac aggcttcttc 960
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cctgttatat taaataataa gaatatggca attagcgata tagcataccc aaacaaagat 1440
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cttttacaaa ttgtgctgag gcaactatgg catagaaata aacatttgac attaaaataa 1740
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1784

<210> 44
<211> 82
<212> PRT
<213> Homo sapiens

<400> 44
Met Cys His Lys Ile Cys Thr Phe Phe Thr Phe Phe Pro Leu Tyr Ile
1 5 10 15

Ser Tyr Gly Leu Gln Leu Val His Ser Glu Asn Asn Asn Asn Lys Ser
20 25 30

Pro Phe Ile Phe Phe Asn Asn Cys Ile Ser Ala Gln Val Ile His Tyr
35 40 45

Ser Leu Lys Pro Cys Leu Cys Asn Leu Thr Ser Asp Met Leu Ala Ile
50 55 60

Lys Ala Cys Thr Cys Asn Asn Glu Lys Glu Lys Ala Phe Tyr Ile Thr
65 70 75 80

Thr Gln

<210> 45
<211> 1034
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (598)

<400> 45
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acgcggccac cgcggccttg cacactcacc gcgaccaccc gcacacagcc gcttacctcc 180
aagagctggg gcgcatgcgc aaagtggtcc tcgaggcccc agatgagacc accctaaagg 240
agctggccga gaccctgcaa cagaagaaca ttgaccacat gctgtggctt gagcaaccag 300
agaatatcgc cacttgtatt gctctccggc cctaccccaa ggaagaagtg ggccagtatt 360
tgaagaagtt ccgattgttc aagtaactgc tgctttgatg tgtttgaata cgcaggccac 420
ccattccaaa gcatcatgtg ttccttgcag tgtcagcttg ctcccgtctt tcagttgtga 480
caatttcttg agggttaagc acatgttcat attaaagttg tcattaataa ctacttcctc 540
ttattaataa gttcaagtgg ggaaggtggg agagcagtat tgtctgggga tcattgcnca 600
aatagaagat ttggttagac tctcctgtgg ggctcaagga aactcccttc cagtcactcg 660
ggtttgaaac tttgcttttg aattccttct tattcacatc cagttatcat atttcattga 720
atccaagata acctcaactt caagatgcgg tagtatttta tgtattgtta aaaaatatgc 780
cggcaaatta aacacttgta tttcaataac aaagatgtta aaatttggcc agtgtggtgg 840
ctcacatctg ttaattccag ggttttggga agccaaggca ggaggatcgc ttgagcccat 900
gagttcaagg ttacagtcag ttctaatcag gccaccgcac tccagcgtgg gcaacagagt 960
gagacacggt ttctataaag attaataaca agttaaaaaa aaaaaaaaaa aaaaaaaaaa 1020
aaaaaaaaaa aaaa 1034

<210> 46

<211> 126
<212> PRT
<213> Homo sapiens

<400> 46
Met Ala Ala Ser Gly Ala Glu Pro Gln Val Leu Val Gln Tyr Leu Val
1 5 10 15

Leu Arg Lys Asp Leu Ser Gln Ala Pro Phe Ser Trp Pro Ala Gly Ala
20 25 30

Leu Val Ala Gln Ala Cys His Ala Ala Thr Ala Ala Leu His Thr His
35 40 45

Arg Asp His Pro His Thr Ala Ala Tyr Leu Gln Glu Leu Gly Arg Met
50 55 60

Arg Lys Val Val Leu Glu Ala Pro Asp Glu Thr Thr Leu Lys Glu Leu
65 70 75 80

Ala Glu Thr Leu Gln Gln Lys Asn Ile Asp His Met Leu Trp Leu Glu
85 90 95

Gln Pro Glu Asn Ile Ala Thr Cys Ile Ala Leu Arg Pro Tyr Pro Lys
100 105 110

Glu Glu Val Gly Gln Tyr Leu Lys Lys Phe Arg Leu Phe Lys
115 120 125

<210> 47
<211> 1626
<212> DNA
<213> Homo sapiens

<400> 47
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ttcccacaac cacaagctaa agtgggagaa gacaaactac ctcacctttt caaccaagag 120
ggaggagcaa aaatcagtga acttttacag aagaacctgc cagcctgtga tgatcctacc 180
aaagagaaac ctcaatgagt tatggaattt ccttttggt gaattgagtg ctgtttttgc 240
ttttctcaga ttccaaatga gagtatacat ttttctttgt ttgatgtgct gggtgagatc 300
tgataataaa agaccatgcc ttgaattctc tcagctaagt gtaaaggatt ccttcagaga 360
tttatttatt ccgagaatag agaccattct gatgatgtat acaaggaaca acctaaactg 420
tgctgagcca ctgtttgaac aaaataactc acttaatgtt aatttcaaca cacaaaagaa 480
aacagtctgg cttattcacg gatacagacc agtaggctcc atcccattat ggcttcagaa 540
cttcgtaagg attttgctga atgaagaaga tatgaatgta attgtagtag actggagccg 600
gggtgctaca acttttattt ataatagagc agttaaaaac accagaaaag ttgctgtgag 660
tttgagtgtg cacattaaaa atcttttgaa gcatggtgca tctcttgaca attttcattt 720
cataggtgtg agtttagggg ctcatatcag tggatttgtt ggaaagatat ttcatggtca 780
acttggaaga ataacaggtc ttgaccctgc tgggccaagg ttctccagaa aaccaccata 840
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aattcaattc attaaatgca accaccagag agcagttcac ttgttcatgg catctttaga 960
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gctatttaaa ggtgttttaa aagaaaggat ggaaggaaga cctcttagga ccactgtgtt 1140
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gattgcaccg ctgccctcca gcctgggtga cagagcaaga ctccatttca ataaaataaa 1560
taaataaata ataaaataaa taaataaata ataaaaataa gttaaagagt aaaaaaaaaa 1620
aaaaaa 1626

<210> 48
<211> 368
<212> PRT
<213> Homo sapiens

<400> 48

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Met Ile Leu Pro Lys Arg Asn Leu Asn Glu Leu Trp Asn Phe Leu Phe
  1               5                  10                  15

Gly Glu Leu Ser Ala Val Phe Ala Phe Leu Arg Phe Gln Met Arg Val
             20                  25                  30

Tyr Ile Phe Leu Cys Leu Met Cys Trp Val Arg Ser Asp Asn Lys Arg
         35                  40                  45

Pro Cys Leu Glu Phe Ser Gln Leu Ser Val Lys Asp Ser Phe Arg Asp
     50                  55                  60

Leu Phe Ile Pro Arg Ile Glu Thr Ile Leu Met Met Tyr Thr Arg Asn
 65                  70                  75                  80

Asn Leu Asn Cys Ala Glu Pro Leu Phe Glu Gln Asn Asn Ser Leu Asn
                 85                  90                  95

Val Asn Phe Asn Thr Gln Lys Lys Thr Val Trp Leu Ile His Gly Tyr
            100                 105                 110

Arg Pro Val Gly Ser Ile Pro Leu Trp Leu Gln Asn Phe Val Arg Ile
        115                 120                 125

Leu Leu Asn Glu Glu Asp Met Asn Val Ile Val Val Asp Trp Ser Arg
    130                 135                 140

Gly Ala Thr Thr Phe Ile Tyr Asn Arg Ala Val Lys Asn Thr Arg Lys
145                 150                 155                 160

Val Ala Val Ser Leu Ser Val His Ile Lys Asn Leu Leu Lys His Gly
                165                 170                 175

Ala Ser Leu Asp Asn Phe His Phe Ile Gly Val Ser Leu Gly Ala His
            180                 185                 190

Ile Ser Gly Phe Val Gly Lys Ile Phe His Gly Gln Leu Gly Arg Ile
        195                 200                 205

Thr Gly Leu Asp Pro Ala Gly Pro Arg Phe Ser Arg Lys Pro Pro Tyr
    210                 215                 220

Ser Arg Leu Asp Tyr Thr Asp Ala Lys Phe Val Asp Val Ile His Ser
225                 230                 235                 240

Asp Ser Asn Gly Ile Gln Phe Ile Lys Cys Asn His Gln Arg Ala Val
                245                 250                 255

His Leu Phe Met Ala Ser Leu Glu Thr Asn Cys Asn Phe Ile Ser Phe
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            260                 265                 270

Pro Cys Arg Ser Tyr Lys Asp Tyr Lys Thr Ser Leu Cys Val Asp Cys
        275                 280                 285

Asp Cys Phe Lys Glu Lys Ser Cys Pro Arg Leu Gly Tyr Gln Ala Lys
    290                 295                 300

Leu Phe Lys Gly Val Leu Lys Glu Arg Met Glu Gly Arg Pro Leu Arg
305                 310                 315                 320

Thr Thr Val Phe Leu Asp Thr Ser Ala Tyr Tyr Phe Val Leu Ser Ile
                325                 330                 335

Ile Val Pro Asp Lys Thr Met Met Asp Gly Ser Phe Ser Phe Lys Leu
            340                 345                 350

Leu Asn Gln Leu Gly Met Ile Glu Glu Pro Arg Leu Tyr Glu Glu Arg
        355                 360                 365


<210> 49
<211> 1221
<212> DNA
<213> Homo sapiens

<400> 49
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attaaattca tgtattgaaa atattgttca gaccccatgt gacataactg gagccagtgc 120
agtgccatga agaactacga gattagcctg gatattaact tgtcttctag agaatagatt 180
tcatgttcca ttcttctgca atggttaatt cacacagaaa accaatgttt aacattcaca 240
gaggatttta ctgcttaaca gccatcttgc cccaaatatg catttgttct cagttctcag 300
tgccatctag ttatcacttc actgaggatc ctggggcttt cccagtagcc actaatgggg 360
aacgatttcc ttggcaggag ctaaggctcc ccagtgtggt cattcctctc cattatgacc 420
tctttgtcca ccccaatctc acctctctgg actttgttgc atctgagaag atcgaagtct 480
tggtcagcaa tgctacccag tttatcatct tgcacagcaa agatcttgaa atcacgaatg 540
ccacccttca gtcagaggaa gattcaagat acatgaaacc aggaaaagaa ctgaaagttt 600
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tgaaatacta tgtggctatg gacttccaag ccaagttagg tgatggcttt gaagggtttt 720
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ctctttctct ttgtatgtga tttaaatgag cactgaggaa ttcagttagc tcaggaaaaa 1140
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caaaaaaaaa aaaaaaaaaa a                                          1221

<210> 50
<211> 305
<212> PRT
<213> Homo sapiens

<400> 50
Met Phe His Ser Ser Ala Met Val Asn Ser His Arg Lys Pro Met Phe
  1               5                  10                  15

Asn Ile His Arg Gly Phe Tyr Cys Leu Thr Ala Ile Leu Pro Gln Ile
            20                  25                  30
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Cys Ile Cys Ser Gln Phe Ser Val Pro Ser Ser Tyr His Phe Thr Glu
          35                  40                  45

Asp Pro Gly Ala Phe Pro Val Ala Thr Asn Gly Glu Arg Phe Pro Trp
      50                  55                  60

Gln Glu Leu Arg Leu Pro Ser Val Val Ile Pro Leu His Tyr Asp Leu
 65                  70                  75                  80

Phe Val His Pro Asn Leu Thr Ser Leu Asp Phe Val Ala Ser Glu Lys
                 85                  90                  95

Ile Glu Val Leu Val Ser Asn Ala Thr Gln Phe Ile Ile Leu His Ser
            100                 105                 110

Lys Asp Leu Glu Ile Thr Asn Ala Thr Leu Gln Ser Glu Glu Asp Ser
        115                 120                 125

Arg Tyr Met Lys Pro Gly Lys Glu Leu Lys Val Leu Ser Tyr Pro Ala
    130                 135                 140

His Glu Gln Ile Ala Leu Leu Val Pro Glu Lys Leu Thr Pro His Leu
145                 150                 155                 160

Lys Tyr Tyr Val Ala Met Asp Phe Gln Ala Lys Leu Gly Asp Gly Phe
                165                 170                 175

Glu Gly Phe Tyr Lys Ser Thr Tyr Arg Thr Leu Gly Gly Glu Thr Arg
            180                 185                 190

Ile Leu Ala Val Thr Asp Phe Glu Pro Thr Gln Ala Arg Met Ala Phe
        195                 200                 205

Pro Cys Phe Asp Glu Pro Leu Phe Lys Ala Asn Phe Ser Ile Lys Ile
    210                 215                 220

Arg Arg Glu Ser Arg His Ile Ala Leu Ser Asn Met Pro Lys Val Ser
225                 230                 235                 240

Ile Tyr Ala Ser Pro Asp Lys Arg Asn Gln Thr His Tyr Ala Leu Gln
                245                 250                 255

Ala Ser Leu Lys Leu Leu Asp Phe Tyr Glu Lys Tyr Phe Asp Ile Tyr
            260                 265                 270

Tyr Pro Leu Ser Lys Leu Gly Met Phe Lys Phe His Ile Ile Val Phe
        275                 280                 285

Ile Phe Ala His Lys Thr Cys Leu Asp Leu Phe Pro Leu Ser Leu Cys
    290                 295                 300

Met
305
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<210> 51
<211> 951
<212> DNA
<213> Homo sapiens

<400> 51
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acaagaatgc cctgcccgga acaacccagc agcgcctaga tggctttggt cacggtccag 180
cggtcaccta cccccagcac cacctccagc ccctgcgcct cggaggcaga cagtggggag 240
gaagaatgcc ggtcacagcc caggagcatc agcgagagct ttctaactgt caaaggtgct 300
gccctttttc taccacgggg aaatggctca tccacaccaa gaatcagcca cagacggaac 360
aagcatgcag gcgatctcca acagcatctc caagcaatgt tcattttact ccgcccagaa 420
gacaacatca ggctggctgt aagactggaa agtacttacc agaatcgaac acgctatatg 480
gtagtggttt caactaatgg tagacaagac actgaagaaa gcatcgtcct aggaatggat 540
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ttcaaacctg tatctgtgca ggcaatgtgg gttgacaggg attcaaggaa caaacactgt 720
gatgtactat tggtggaaga atgaactgga gcagcctttc tggagagtga tttgccaata 780
tgccttatca ttttgcatga tctttgtcct agtaactcta tttctatgga tttactctaa 840
gtttgtaaac atggatgtgt gcaaagattt tagctctaag aatgtttgtc agtgttctaa 900
taatagcaaa aaataaaaaa caaatgattg aaaaataaaa aaaaaaaaaa a 951

<210> 52
<211> 194
<212> PRT
<213> Homo sapiens

<400> 52
Met Ala Leu Val Thr Val Gln Arg Ser Pro Thr Pro Ser Thr Thr Ser
1 5 10 15

Ser Pro Cys Ala Ser Glu Ala Asp Ser Gly Glu Glu Glu Cys Arg Ser
20 25 30

Gln Pro Arg Ser Ile Ser Glu Ser Phe Leu Thr Val Lys Gly Ala Ala
35 40 45

Leu Phe Leu Pro Arg Gly Asn Gly Ser Ser Thr Pro Arg Ile Ser His
50 55 60

Arg Arg Asn Lys His Ala Gly Asp Leu Gln Gln His Leu Gln Ala Met
65 70 75 80

Phe Ile Leu Leu Arg Pro Glu Asp Asn Ile Arg Leu Ala Val Arg Leu
85 90 95

Glu Ser Thr Tyr Gln Asn Arg Thr Arg Tyr Met Val Val Val Ser Thr
100 105 110

Asn Gly Arg Gln Asp Thr Glu Glu Ser Ile Val Leu Gly Met Asp Phe
115 120 125

Ser Ser Asn Asp Ser Thr Cys Thr Met Gly Leu Val Leu Pro Leu Trp
130 135 140

Ser Asp Thr Leu Ile His Leu Asp Gly Asp Gly Gly Phe Ser Val Ser
145 150 155 160

Thr Asp Asn Arg Val His Ile Phe Lys Pro Val Ser Val Gln Ala Met
165 170 175

Trp Val Asp Arg Asp Ser Arg Asn Lys His Cys Asp Val Leu Leu Val
180 185 190

Glu Glu

<210> 53
<211> 1514
<212> DNA
<213> Homo sapiens

<400> 53
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gattttgggg ttttttcaca ttgcgctatt cagtataaac ctgctctcaa cattcatgtg 180
caagtctttg agtggacata tatttgcgtt tctcttgagt gaatgcacct tgttgggtca 240
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tatctcataa ttttatttttc ttgtttaatg atgttgagtg tatttcattt gtattttagt 360
ttgcaaatgt ttgttcaaat tcttcacctg tttttaatga agacgtacga cttatttttg 420
tgttctgaac ataagttctt tgtcacataa aatgtgctat gaatgttgag ttttaaatac 480
tccaaatgaa tggctagaga attactattt gtagaaatat ttatatgtca aagggatgct 540
aacaatttac tttattgctc taaaatagaa aagttgccag aatgctgtgg agttttagtg 600
gaaaacatga tagctggtgt tactgagtaa atttgagtgt taaatgtcaa tgtaagctaa 660
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aaaaaaaaaa aaaa 1514

<210> 54
<211> 91
<212> PRT
<213> Homo sapiens

<400> 54
Met Ala Ser Gln Val Pro Ser Ser Pro Phe Gln Ser Phe Phe Val Phe
1 5 10 15

Val Phe Val Phe Leu Arg Pro Ser His Ser Val Ala Gln Ala Gly Val
20 25 30

Pro Leu His Phe Tyr Phe Phe Ile Gln Gln Val Leu Ile Lys Cys Ala
35 40 45

Leu Tyr Gln Val Leu Ser Ser Ser Leu Gly Tyr Asn Gly Asp Gln Gly
50 55 60

Asp Cys Arg Phe Trp Gln Gly Lys Leu Thr Ser Asn Thr Ala Thr Arg
65 70 75 80

His Ser Glu Thr Leu Ser Leu Leu Glu Glu Leu

85 90

<210> 55
<211> 1417
<212> DNA
<213> Homo sapiens

<400> 55
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tagcccaaga agcatttttt gcagcaccga actcaatttc tccacttcag tcaacatcaa 240
acagtgaaca acaagctgct ttccaacagc aagctccaat atcacacatc cagactccta 300
tgctttccca agaacaggca caacccccgc agcagggttt atttcagcct caggtggccc 360
tgggctccct tccacctaat ccaatgcctc aaagccaaca aggaaccatg ttccagtcac 420
agcactcaat agttgccatg cagagtaact ctccatccca ggaacagcag cagcagcagc 480
aacagcagca gcaacagcag cagcaacaac aacagagcat tttattcagt aatcagaata 540
ccatggctac aatggcgtct ccaaagcaac caccaccaaa catgatattc aacccaaatc 600
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attattactt taaaaacaaa acaaaaaaaa aaaaaaa 1417

<210> 56
<211> 420
<212> PRT
<213> Homo sapiens

<400> 56
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Gly Ser Ser Val Pro Gln Asp Gln Gln Ser Thr Asn Ile Phe Leu Ser
20 25 30

Gln Ser Pro Met Asn Asn Leu Gln Thr Asn Thr Val Ala Gln Glu Ala
35 40 45

Phe Phe Ala Ala Pro Asn Ser Ile Ser Pro Leu Gln Ser Thr Ser Asn
50 55 60

Ser Glu Gln Gln Ala Ala Phe Gln Gln Gln Ala Pro Ile Ser His Ile
65 70 75 80

Gln Thr Pro Met Leu Ser Gln Glu Gln Ala Gln Pro Pro Gln Gln Gly
85 90 95

Leu Phe Gln Pro Gln Val Ala Leu Gly Ser Leu Pro Pro Asn Pro Met
100 105 110

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Pro Gln Ser Gln Gln Gly Thr Met Phe Gln Ser Gln His Ser Ile Val
        115                 120                 125

Ala Met Gln Ser Asn Ser Pro Ser Gln Glu Gln Gln Gln Gln Gln Gln
    130                 135                 140

Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Ser Ile Leu Phe Ser
145                 150                 155                 160

Asn Gln Asn Thr Met Ala Thr Met Ala Ser Pro Lys Gln Pro Pro Pro
                165                 170                 175

Asn Met Ile Phe Asn Pro Asn Gln Asn Pro Met Ala Asn Gln Glu Gln
            180                 185                 190

Gln Asn Gln Ser Ile Phe His Gln Gln Ser Asn Met Ala Pro Met Asn
        195                 200                 205

Gln Glu Gln Gln Pro Met Gln Phe Gln Ser Gln Ser Thr Val Ser Ser
    210                 215                 220

Leu Gln Asn Pro Gly Pro Thr Gln Ser Glu Ser Ser Gln Thr Pro Leu
225                 230                 235                 240

Phe His Ser Ser Pro Gln Ile Gln Leu Val Gln Gly Ser Pro Ser Ser
                245                 250                 255

Gln Glu Gln Gln Val Thr Leu Phe Leu Ser Pro Ala Ser Met Ser Ala
            260                 265                 270

Leu Gln Thr Ser Ile Asn Gln Gln Asp Met Gln Gln Ser Pro Leu Tyr
        275                 280                 285

Ser Pro Gln Asn Asn Met Pro Gly Ile Gln Gly Ala Thr Phe Ser Pro
    290                 295                 300

Gln Pro Gln Ala Thr Leu Phe His Asn Thr Ala Gly Gly Thr Met Asn
305                 310                 315                 320

Gln Leu Gln Asn Ser Pro Gly Ser Ser Gln Gln Thr Ser Gly Met Phe
                325                 330                 335

Leu Phe Gly Ile Gln Asn Asn Cys Ser Gln Leu Leu Thr Ser Gly Pro
            340                 345                 350

Ala Thr Leu Pro Asp Gln Leu Met Ala Ile Ser Gln Pro Gly Gln Pro
        355                 360                 365

Gln Asn Glu Gly Gln Pro Pro Val Thr Thr Leu Leu Ser Gln Gln Met
    370                 375                 380

Pro Glu Asn Ser Pro Leu Ala Ser Ser Ile Asn Thr Asn Gln Asn Ile
385                 390                 395                 400

Glu Lys Ile Asp Leu Leu Val Ser Leu Gln Asn Gln Gly Asn Asn Leu
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Thr Gly Ser Phe
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<211> 2297
<212> DNA
<213> Homo sapiens

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<210> 58
<211> 378
<212> PRT
<213> Homo sapiens

<400> 58
Met Ala Val Ile Gly Leu Pro Tyr Tyr Leu Phe Val Trp Glu Asp Tyr
1 5 10 15

Asp Lys Tyr Val Ile Phe Ala Ser Phe Asn Leu Ile Trp Ser Thr Val
20 25 30

Ile Leu Glu Leu Trp Lys Arg Gly Cys Ala Asn Met Thr Tyr Arg Trp
35 40 45

Gly Thr Leu Leu Met Lys Arg Lys Phe Glu Glu Pro Arg Pro Gly Phe
50 55 60

His Gly Val Leu Gly Ile Asn Ser Ile Thr Gly Lys Glu Glu Pro Leu
65 70 75 80

Tyr Pro Ser Tyr Lys Arg Gln Leu Arg Ile Tyr Leu Val Ser Leu Pro
85 90 95

Phe Val Cys Leu Cys Leu Tyr Phe Ser Leu Tyr Val Met Met Ile Tyr
100 105 110

Phe Asp Met Glu Val Trp Ala Leu Gly Leu His Glu Asn Ser Gly Ser
115 120 125

Glu Trp Thr Ser Val Leu Leu Tyr Val Pro Ser Ile Ile Tyr Ala Ile
130 135 140

Val Ile Glu Ile Met Asn Arg Leu Tyr Arg Tyr Ala Ala Glu Phe Leu
145 150 155 160

Thr Ser Trp Glu Asn His Arg Leu Glu Ser Ala Tyr Gln Asn His Leu
165 170 175

Ile Leu Lys Val Leu Val Phe Asn Phe Leu Asn Cys Phe Ala Ser Leu
180 185 190

Phe Tyr Ile Ala Phe Val Leu Lys Asp Met Lys Leu Leu Arg Gln Ser
195 200 205

Leu Ala Thr Leu Leu Ile Thr Ser Gln Ile Leu Asn Gln Ile Met Glu
210 215 220

Ser Phe Leu Pro Tyr Trp Leu Gln Arg Lys His Gly Val Gln Val Lys
225 230 235 240

Arg Lys Val Gln Ala Leu Lys Ala Asp Ile Asp Ala Thr Leu Tyr Glu
245 250 255

Gln Val Ile Leu Glu Lys Glu Met Gly Thr Tyr Leu Gly Thr Phe Asp
260 265 270

Asp Tyr Leu Glu Leu Phe Leu Gln Phe Gly Tyr Val Ser Leu Phe Ser
275 280 285

Cys Val Tyr Pro Leu Ala Ala Ala Phe Ala Val Leu Asn Asn Phe Thr
290 295 300

Glu Val Asn Ser Asp Ala Leu Lys Met Cys Arg Val Phe Lys Arg Pro
305 310 315 320

Phe Ser Glu Pro Ser Ala Asn Ile Gly Val Trp Gln Met Ile Phe Cys
325 330 335

Leu Asp Thr Gly Val Lys Arg Gly Leu Asn Cys Lys Val Met Arg Asn
340 345 350

Leu Leu Gly Glu Met Glu Met Ser Cys Val Leu Phe Val Val Val Val
355 360 365

Val Ser Gln Val Asn Thr Pro Ile Lys Arg
370 375

<210> 59
<211> 4145
<212> DNA
<213> Homo sapiens

<400> 59
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aatgaagaag ctctttctgt tactgaacta gatcgagtct atggaggtct tacaactaaa 180
gtccaagaat ctctaaagaa acaggaggga cttcttaaaa atattcaggt ctcacatcag 240
gaattttcaa aaatgaaaca atctaataat gaagctaact taagagaaga agttttgaag 300
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aagttttaca atgagttgac tgaaatcctg gtcaggttcc agaacaaatg cagtgatata 420
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agagaaccta gtgctccttc aattcctaca cctgcgtatc agtcctcacc agcaggagga 540
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aaaaa 4145

<210> 60
<211> 289
<212> PRT
<213> Homo sapiens

<400> 60
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Glu Glu Ala Leu Ser Val Thr Glu Leu Asp Arg Val Tyr Gly Gly Leu
20 25 30

Thr Thr Lys Val Gln Glu Ser Leu Lys Lys Gln Glu Gly Leu Leu Lys
35 40 45

Asn Ile Gln Val Ser His Gln Glu Phe Ser Lys Met Lys Gln Ser Asn
50 55 60

Asn Glu Ala Asn Leu Arg Glu Glu Val Leu Lys Asn Leu Ala Thr Ala
65 70 75 80

Tyr Asp Asn Phe Val Glu Leu Val Ala Asn Leu Lys Glu Gly Thr Lys
85 90 95

Phe Tyr Asn Glu Leu Thr Glu Ile Leu Val Arg Phe Gln Asn Lys Cys
100 105 110

Ser Asp Ile Val Phe Ala Arg Lys Thr Glu Arg Asp Glu Leu Leu Lys
115 120 125

Asp Leu Gln Gln Ser Ile Ala Arg Glu Pro Ser Ala Pro Ser Ile Pro
130 135 140

Thr Pro Ala Tyr Gln Ser Ser Pro Ala Gly Gly His Ala Pro Thr Pro
145 150 155 160

Pro Thr Pro Ala Pro Arg Thr Met Pro Pro Thr Lys Pro Gln Pro Pro
165 170 175

Ala Arg Pro Pro Pro Pro Val Leu Pro Ala Asn Arg Ala Pro Ser Ala
180 185 190

Thr Ala Pro Ser Pro Val Gly Ala Gly Thr Ala Ala Pro Ala Pro Ser
195 200 205

Gln Thr Pro Gly Ser Ala Pro Pro Pro Gln Ala Gln Gly Pro Pro Tyr
210 215 220

Pro Thr Tyr Pro Gly Tyr Pro Gly Tyr Cys Gln Met Pro Met Pro Met
225 230 235 240

Gly Tyr Asn Pro Tyr Ala Tyr Gly Gln Tyr Asn Met Pro Tyr Pro Pro
245 250 255

Val Tyr His Gln Ser Pro Gly Gln Ala Pro Tyr Pro Gly Pro Gln Gln
260 265 270

Pro Ser Tyr Pro Phe Pro Gln Pro Pro Gln Gln Ser Tyr Tyr Pro Gln
275 280 285

Gln

<210> 61
<211> 1417
<212> DNA
<213> Homo sapiens

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agaggttgcg accatcagtt gccaagtcaa taagagtgac gactctgtga ttcagctact 240
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caggtggttc aaagggaaca cagagctaaa aggcaaatcg gaggtggaag agtggtcaga 600
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gaaggcttgg gatttgctgt gtaaaaaaaa aaaaaaa 1417

<210> 62

<211> 414
<212> PRT
<213> Homo sapiens

<400> 62
Met Ala Ser Val Val Leu Pro Ser Gly Ser Gln Cys Ala Ala Ala Ala
1 5 10 15

Ala Ala Ala Ala Pro Pro Gly Leu Arg Leu Arg Leu Leu Leu Leu Leu
20 25 30

Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly Gln Asn Leu Phe
35 40 45

Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile Ser Cys
50 55 60

Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn
65 70 75 80

Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg
85 90 95

Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr
100 105 110

Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys Gln Leu Tyr Thr
115 120 125

Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro
130 135 140

Arg Asn Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu
145 150 155 160

Glu Ile Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr
165 170 175

Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu Lys Gly Lys Ser Glu Val
180 185 190

Glu Glu Trp Ser Asp Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys
195 200 205

Val His Lys Glu Asp Asp Gly Val Pro Val Ile Cys Gln Val Glu His
210 215 220

Pro Ala Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln
225 230 235 240

Tyr Lys Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu
245 250 255

Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys Glu Ala Ile Gly Lys
260 265 270

Pro Gln Pro Val Met Val Thr Trp Val Arg Val Asp Asp Glu Met Pro
275 280 285

Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile Asn Asn Leu Asn

290 295 300

Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser Asn Ile Val Gly
305 310 315 320

Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp Ser Arg Ala Gly
325 330 335

Glu Glu Gly Ser Ile Arg Ala Val Asp His Ala Val Ile Gly Gly Val
340 345 350

Val Ala Val Val Val Phe Ala Met Leu Cys Leu Leu Ile Ile Leu Gly
355 360 365

Arg Tyr Phe Ala Arg His Lys Gly Thr Tyr Phe Thr His Glu Ala Lys
370 375 380

Gly Ala Asp Asp Ala Ala Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu
385 390 395 400

Gly Gly Gln Asn Asn Ser Glu Glu Lys Lys Glu Tyr Phe Ile
405 410

<210> 63
<211> 1571
<212> DNA
<213> Homo sapiens

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<210> 64
<211> 417

<212> PRT
<213> Homo sapiens

<400> 64
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Val Ile Asp Leu Gly Glu Ala Phe Thr Lys Cys Gly Phe Ala Gly Glu
20 25 30

Thr Gly Pro Arg Cys Ile Ile Pro Ser Val Ile Lys Arg Ala Gly Met
35 40 45

Pro Lys Pro Val Arg Val Val Gln Tyr Asn Ile Asn Thr Glu Glu Leu
50 55 60

Tyr Ser Tyr Leu Lys Glu Phe Ile His Ile Leu Tyr Phe Arg His Leu
65 70 75 80

Leu Val Asn Pro Arg Asp Arg Arg Val Val Ile Ile Glu Ser Val Leu
85 90 95

Cys Pro Ser His Phe Arg Glu Thr Leu Thr Arg Val Leu Phe Lys Tyr
100 105 110

Phe Glu Val Pro Ser Val Leu Leu Ala Pro Ser His Leu Met Ala Leu
115 120 125

Leu Thr Leu Gly Ile Asn Ser Ala Met Val Leu Asp Cys Gly Tyr Arg
130 135 140

Glu Ser Leu Val Leu Pro Ile Tyr Glu Gly Ile Pro Val Leu Asn Cys
145 150 155 160

Trp Gly Ala Leu Pro Leu Gly Gly Lys Ala Leu His Lys Glu Leu Glu
165 170 175

Thr Gln Leu Leu Glu Gln Cys Thr Val Asp Thr Ser Val Ala Lys Glu
180 185 190

Gln Ser Leu Pro Ser Val Met Gly Ser Val Pro Glu Gly Val Leu Glu
195 200 205

Asp Ile Lys Ala Arg Thr Cys Phe Val Ser Asp Leu Lys Arg Gly Leu
210 215 220

Lys Ile Gln Ala Ala Lys Phe Asn Ile Asp Gly Asn Asn Glu Arg Pro
225 230 235 240

Ser Pro Pro Pro Asn Val Asp Tyr Pro Leu Asp Gly Glu Lys Ile Leu
245 250 255

His Ile Leu Gly Ser Ile Arg Asp Ser Val Val Glu Ile Leu Phe Glu
260 265 270

Gln Asp Asn Glu Glu Gln Ser Val Ala Thr Leu Ile Leu Asp Ser Leu
275 280 285

Ile Gln Cys Pro Ile Asp Thr Arg Lys Gln Leu Ala Glu Asn Leu Val
290 295 300

Val Ile Gly Gly Thr Ser Met Leu Pro Gly Phe Leu His Arg Leu Leu
305 310 315 320

Ala Glu Ile Arg Tyr Leu Val Glu Lys Pro Lys Tyr Lys Lys Ala Leu
325 330 335

Gly Thr Lys Thr Phe Arg Ile His Thr Pro Pro Ala Lys Ala Asn Cys
340 345 350

Val Ala Trp Leu Gly Gly Ala Ile Phe Gly Ala Leu Gln Asp Ile Leu
355 360 365

Gly Ser Arg Ser Val Ser Lys Glu Tyr Tyr Asn Gln Thr Gly Arg Ile
370 375 380

Pro Asp Trp Cys Ser Leu Asn Asn Pro Pro Leu Glu Met Met Phe Asp
385 390 395 400

Val Gly Lys Thr Gln Pro Pro Leu Met Lys Arg Ala Phe Ser Thr Glu
405 410 415

Lys

<210> 65
<211> 1752
<212> DNA
<213> Homo sapiens

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<210> 66
<211> 254
<212> PRT
<213> Homo sapiens

<400> 66
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Leu Arg Phe Thr Met Val Ala Leu Val Thr Val Cys Cys Pro Leu Val
20 25 30

Ala Phe Leu Phe Cys Ile Leu Trp Ser Leu Leu Phe His Phe Lys Glu
35 40 45

Thr Thr Ala Thr His Cys Gly Val Pro Asn Tyr Leu Pro Ser Val Ser
50 55 60

Ser Ala Ile Gly Gly Glu Val Pro Gln Arg Tyr Val Trp Arg Phe Cys
65 70 75 80

Ile Gly Leu His Ser Ala Pro Arg Phe Leu Val Ala Phe Ala Tyr Trp
85 90 95

Asn His Tyr Leu Ser Cys Thr Ser Pro Cys Ser Cys Tyr Arg Pro Leu
100 105 110

Cys Arg Leu Asn Phe Gly Leu Asn Val Val Glu Asn Leu Ala Leu Leu
115 120 125

Val Leu Thr Tyr Val Ser Ser Ser Glu Asp Phe Thr Ile His Glu Asn
130 135 140

Ala Phe Ile Val Phe Ile Ala Ser Ser Leu Gly His Met Leu Leu Thr
145 150 155 160

Cys Ile Leu Trp Arg Leu Thr Lys Lys His Thr Val Ser Gln Glu Asp
165 170 175

Arg Lys Ser Tyr Ser Trp Lys Gln Arg Leu Phe Ile Ile Asn Phe Ile
180 185 190

Ser Phe Phe Ser Ala Leu Ala Val Tyr Phe Arg His Asn Met Tyr Cys
195 200 205

Glu Ala Gly Val Tyr Thr Ile Phe Ala Ile Leu Glu Tyr Thr Val Val
210 215 220

Leu Thr Asn Met Ala Phe His Met Thr Ala Trp Trp Asp Phe Gly Asn
225 230 235 240

Lys Glu Leu Leu Ile Thr Ser Gln Pro Glu Glu Lys Arg Phe
245 250

<210> 67
<211> 781

<212> DNA
<213> Homo sapiens

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a 781

<210> 68
<211> 127
<212> PRT
<213> Homo sapiens

<400> 68
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Gly Ile Lys Gln Ala Gly Phe Thr Thr Gly Met Cys Val Ile Ile Leu
20 25 30

Met Gly Leu Leu Thr Leu Tyr Cys Cys Tyr Arg Val Val Lys Ser Arg
35 40 45

Thr Met Met Phe Ser Leu Asp Thr Thr Thr Trp Glu Tyr Pro Asp Val
50 55 60

Cys Arg His Tyr Phe Gly Ser Phe Gly Gln Trp Ser Ser Leu Leu Phe
65 70 75 80

Ser Leu Val Ser Leu Ile Gly Ala Met Ile Val Tyr Trp Val Leu Met
85 90 95

Ser Asn Phe Leu Phe Asn Thr Gly Lys Phe Ile Phe Ser Lys Tyr Leu
100 105 110

Tyr His Met Leu Leu Thr Gln Tyr Phe Gln Ile Leu Leu Pro Leu
115 120 125

<210> 69
<211> 649
<212> DNA
<213> Homo sapiens

<400> 69
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gaaccccagg ggaaggtgca atacggagag cactttcgga ttcggcagaa tctaccagag 180
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gtgatactgc agtgtcaaag agacagtgag aagaataagg agcagagtcc tcctggcctt 300
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cggaatctta aacgtgccat ggcaacaggt agtggcagta acctcaggct tcgaaagtca 480
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<210> 70
<211> 171
<212> PRT
<213> Homo sapiens

<400> 70
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Ser Tyr Ala Phe Met Phe Ser Ser Leu Arg Gln Lys Thr Ser Glu Pro
20 25 30

Gln Gly Lys Val Gln Tyr Gly Glu His Phe Arg Ile Arg Gln Asn Leu
35 40 45

Pro Glu His Thr Gln Gly Trp Leu Gly Ser Lys Trp Leu Trp Leu Leu
50 55 60

Phe Val Val Val Pro Phe Val Ile Leu Gln Cys Gln Arg Asp Ser Glu
65 70 75 80

Lys Asn Lys Glu Gln Ser Pro Pro Gly Leu Arg Gly Gly Gln Leu His
85 90 95

Ser Pro Leu Lys Lys Lys Arg Asn Ala Ser Pro Asn Lys Asp Cys Ala
100 105 110

Phe Asn Thr Leu Met Glu Leu Glu Val Glu Leu Met Lys Phe Val Ser
115 120 125

Lys Val Arg Asn Leu Lys Arg Ala Met Ala Thr Gly Ser Gly Ser Asn
130 135 140

Leu Arg Leu Arg Lys Ser Glu Met Pro Ala Asp Pro Tyr His Val Thr
145 150 155 160

Ile Cys Glu Ile Trp Gly Glu Glu Ser Ser Ser
165 170

<210> 71
<211> 1456
<212> DNA
<213> Homo sapiens

<400> 71
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<210> 72
<211> 400
<212> PRT
<213> Homo sapiens

<400> 72
Met Cys Ala Leu Ile Thr Cys Pro Val Pro Ala Cys Gly Asn Pro Thr
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Ile His Pro Gly Gln Cys Cys Pro Ser Cys Ala Asp Asp Phe Val Val
20 25 30

Gln Lys Pro Glu Leu Ser Thr Pro Ser Ile Cys His Ala Pro Gly Gly
35 40 45

Glu Tyr Phe Val Glu Gly Glu Thr Trp Asn Ile Asp Ser Cys Thr Gln
50 55 60

Cys Thr Cys His Ser Gly Arg Val Leu Cys Glu Thr Glu Val Cys Pro
65 70 75 80

Pro Leu Leu Cys Gln Asn Pro Ser Arg Thr Gln Asp Ser Cys Cys Pro
85 90 95

Gln Cys Thr Asp Gln Pro Phe Arg Pro Ser Leu Ser Arg Asn Asn Ser
100 105 110

Val Pro Asn Tyr Cys Lys Asn Asp Glu Gly Asp Ile Phe Leu Ala Ala
115 120 125

Glu Ser Trp Lys Pro Asp Val Cys Thr Ser Cys Ile Cys Ile Asp Ser
130 135 140

Val Ile Ser Cys Phe Ser Glu Ser Cys Pro Ser Val Ser Cys Glu Arg
145 150 155 160

Pro Val Leu Arg Lys Gly Gln Cys Cys Pro Tyr Cys Ile Glu Asp Thr
165 170 175

Ile Pro Lys Lys Val Val Cys His Phe Ser Gly Lys Ala Tyr Ala Asp

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            180                 185                 190

Glu Glu Arg Trp Asp Leu Asp Ser Cys Thr His Cys Tyr Cys Leu Gln
        195                 200                 205

Gly Gln Thr Leu Cys Ser Thr Val Ser Cys Pro Pro Leu Pro Cys Val
    210                 215                 220

Glu Pro Ile Asn Val Glu Gly Ser Cys Cys Pro Met Cys Pro Glu Met
225                 230                 235                 240

Tyr Val Pro Glu Pro Thr Asn Ile Pro Ile Glu Lys Thr Asn His Arg
                245                 250                 255

Gly Glu Val Asp Leu Glu Val Pro Leu Trp Pro Thr Pro Ser Glu Asn
            260                 265                 270

Asp Ile Val His Leu Pro Arg Asp Met Gly His Leu Gln Val Asp Tyr
        275                 280                 285

Arg Asp Asn Arg Leu His Pro Ser Glu Asp Ser Ser Leu Asp Ser Ile
    290                 295                 300

Ala Ser Val Val Val Pro Ile Ile Ile Cys Leu Ser Ile Ile Ile Ala
305                 310                 315                 320

Phe Leu Phe Ile Asn Gln Lys Lys Gln Trp Ile Pro Leu Leu Cys Trp
                325                 330                 335

Tyr Arg Thr Pro Thr Lys Pro Ser Ser Leu Asn Asn Gln Leu Val Ser
            340                 345                 350

Val Asp Cys Lys Lys Gly Thr Arg Val Gln Val Asp Ser Ser Gln Arg
        355                 360                 365

Met Leu Arg Ile Ala Glu Pro Asp Ala Arg Phe Ser Gly Phe Tyr Ser
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Met Gln Lys Gln Asn His Leu Gln Ala Asp Asn Phe Tyr Gln Thr Val
385                 390                 395                 400
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<210> 73
<211> 4723
<212> DNA
<213> Homo sapiens

<400> 73

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35 40 45

Arg Asn Cys Pro Gly Ser Ile Val Gln Gly Val Cys Gly Cys Cys Tyr
50 55 60

Thr Cys Ala Ser Gln Arg Asn Glu Ser Cys Gly Gly Thr Phe Gly Ile
65 70 75 80

Tyr Gly Thr Cys Asp Arg Gly Leu Arg Cys Val Ile Arg Pro Pro Leu
85 90 95

Asn Gly Asp Ser Leu Thr Glu Tyr Glu Ala Gly Val Cys Glu Asp Glu
100 105 110

Asn Trp Thr Asp Asp Gln Leu Leu Gly Phe Lys Pro Cys Asn Glu Asn
115 120 125

Leu Ile Ala Gly Cys Asn Ile Ile Asn Gly Lys Cys Glu Cys Asn Thr
130 135 140

Ile Arg Thr Cys Ser Asn Pro Phe Glu Phe Pro Ser Gln Asp Met Cys
145 150 155 160

Leu Ser Ala Leu Lys Arg Ile Glu Glu Glu Lys Pro Asp Cys Ser Lys
165 170 175

Ala Arg Cys Glu Val Gln Phe Ser Pro Arg Cys Pro Glu Asp Ser Val
180 185 190

Leu Ile Glu Gly Tyr Ala Pro Pro Gly Glu Cys Cys Pro Leu Pro Ser
195 200 205

Arg Cys Val Cys Asn Pro Ala Gly Cys Leu Arg Lys Val Cys Gln Pro
210 215 220

Gly Asn Leu Asn Ile Leu Val Ser Lys Ala Ser Gly Lys Pro Gly Glu
225 230 235 240

Cys Cys Asp Leu Tyr Glu Cys Lys Pro Val Phe Gly Val Asp Cys Arg

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Tyr Glu Thr Gln Val Arg Leu Thr Ala Asp Gly Cys Cys Thr Leu Pro
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Thr Arg Cys Glu Cys Leu Ser Gly Leu Cys Gly Phe Pro Val Cys Glu
    290                 295                 300

Val Gly Ser Thr Pro Arg Ile Val Ser Arg Gly Asp Gly Thr Pro Gly
305                 310                 315                 320

Lys Cys Cys Asp Val Phe Glu Cys Val Asn Asp Thr Lys Pro Ala Cys
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Val Phe Asn Asn Val Glu Tyr Tyr Asp Gly Asp Met Phe Arg Met Asp
            340                 345                 350

Asn Cys Arg Phe Cys Arg Cys Gln Gly Gly Val Ala Ile Cys Phe Thr
        355                 360                 365

Ala Gln Cys Gly Glu Ile Asn Cys Glu Arg Tyr Tyr Val Pro Glu Gly
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Glu Cys Cys Pro Val Cys Glu Asp Pro Val Tyr Pro Phe Asn Asn Pro
385                 390                 395                 400

Ala Gly Cys Tyr Ala Asn Gly Leu Ile Leu Ala His Gly Asp Arg Trp
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Arg Glu Asp Asp Cys Thr Phe Cys Gln Cys Val Asn Gly Glu Arg His
            420                 425                 430

Cys Val Ala Thr Val Cys Gly Gln Thr Cys Thr Asn Pro Val Lys Val
        435                 440                 445

Pro Gly Glu Cys Cys Pro Val Cys Glu Glu Pro Thr Ile Ile Thr Val
    450                 455                 460

Asp Pro Pro Ala Cys Gly Glu Leu Ser Asn Cys Thr Leu Thr Gly Lys
465                 470                 475                 480

Asp Cys Ile Asn Gly Phe Lys Arg Asp His Asn Gly Cys Arg Thr Cys
                485                 490                 495

Gln Cys Ile Asn Thr Glu Glu Leu Cys Ser Glu Arg Lys Gln Gly Cys
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Thr Leu Asn Cys Pro Phe Gly Phe Leu Thr Asp Ala Gln Asn Cys Glu
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Ile Cys Glu Cys Arg Pro Arg Pro Lys Lys Cys Arg Pro Ile Ile Cys
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Asp Lys Tyr Cys Pro Leu Gly Leu Leu Lys Asn Lys His Gly Cys Asp
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Ile Cys Arg Cys Lys Lys Cys Pro Glu Leu Ser Cys Ser Lys Ile Cys
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Arg Glu Ala Ser Ala Ser Ala Gly Pro Pro Ile Leu Ser Gly Thr Cys
595 600 605

Leu Thr Val Asp Gly His His His Lys Asn Glu Glu Ser Trp His Asp
610 615 620

Gly Cys Arg Glu Cys Tyr Cys Leu Asn Gly Arg Glu Met Cys Ala Leu
625 630 635 640

Ile Thr Cys Pro Val Pro Ala Cys Gly Asn Pro Thr Ile His Pro Gly
645 650 655

Gln Cys Cys Pro Ser Cys Ala Asp Asp Phe Val Val Gln Lys Pro Glu
660 665 670

Leu Ser Thr Pro Ser Ile Cys His Ala Pro Gly Gly Glu Tyr Phe Val
675 680 685

Glu Gly Glu Thr Trp Asn Ile Asp Ser Cys Thr Gln Cys Thr Cys His
690 695 700

Ser Gly Arg Val Leu Cys Glu Thr Glu Val Cys Pro Pro Leu Leu Cys
705 710 715 720

Gln Asn Pro Ser Arg Thr Gln Asp Ser Cys Cys Pro Gln Cys Thr Asp
725 730 735

Gln Pro Phe Arg Pro Ser Leu Ser Arg Asn Asn Ser Val Pro Asn Tyr
740 745 750

Cys Lys Asn Asp Glu Gly Asp Ile Phe Leu Ala Ala Glu Ser Trp Lys
755 760 765

Pro Asp Val Cys Thr Ser Cys Ile Cys Ile Asp Ser Val Ile Ser Cys
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785 790 795 800

Lys Gly Gln Cys Cys Pro Tyr Cys Ile Glu Asp Thr Ile Pro Lys Lys
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Val Val Cys His Phe Ser Gly Lys Ala Tyr Ala Asp Glu Glu Arg Trp
820 825 830

Asp Leu Asp Ser Cys Thr His Cys Tyr Cys Leu Gln Gly Gln Thr Leu
835 840 845

Cys Ser Thr Val Ser Cys Pro Pro Leu Pro Cys Val Glu Pro Ile Asn
850 855 860

Val Glu Gly Ser Cys Cys Pro Met Cys Pro Glu Met Tyr Val Pro Glu
865 870 875 880

Pro Thr Asn Ile Pro Ile Glu Lys Thr Asn His Arg Gly Glu Val Asp

885 890 895

Leu Glu Val Pro Leu Trp Pro Thr Pro Ser Glu Asn Asp Ile Val His
900 905 910

Leu Pro Arg Asp Met Gly His Leu Gln Val Asp Tyr Arg Asp Asn Arg
915 920 925

Leu His Pro Ser Glu Asp Ser Ser Leu Asp Ser Ile Ala Ser Val Val
930 935 940

Val Pro Ile Ile Ile Cys Leu Ser Ile Ile Ile Ala Phe Leu Phe Ile
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Asn Gln Lys Lys Gln Trp Ile Pro Leu Leu Cys Trp Tyr Arg Thr Pro
965 970 975

Thr Lys Pro Ser Ser Leu Asn Asn Gln Leu Val Ser Val Asp Cys Lys
980 985 990

Lys Gly Thr Arg Val Gln Val Asp Ser Ser Gln Arg Met Leu Arg Ile
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Ser Glu Thr Tyr Cys Met Phe Gln Asp Lys Lys Tyr Arg Val Gly Glu
35 40 45

Arg Trp His Pro Tyr Leu Glu Pro Tyr Gly Leu Val Tyr Cys Val Asn
50 55 60

Cys Ile Cys Ser Glu Asn Gly Asn Val Leu Cys Ser Arg Val Arg Cys
65 70 75 80

Pro Asn Val His Cys Leu Ser Pro Val His Ile Pro His Leu Cys Cys
85 90 95

Pro Arg Cys Pro Asp Ser Leu Pro Pro Val Asn Asn Lys Val Thr Ser
100 105 110

Lys Ser Cys Glu Tyr Asn Gly Thr Thr Tyr Gln His Gly Glu Leu Phe
115 120 125

Val Ala Glu Gly Leu Phe Gln Asn Arg Gln Pro Asn Gln Cys Thr Gln
130 135 140

Cys Ser Cys Ser Glu Gly Asn Val Tyr Cys Gly Leu Lys Thr Cys Pro
145 150 155 160

Lys Leu Thr Cys Ala Phe Pro Val Ser Val Pro Asp Ser Cys Cys Arg
165 170 175

Val Cys Arg Gly Asp Gly Glu Leu Ser Trp Glu His Ser Asp Gly Asp
180 185 190

Ile Phe Arg Gln Pro Ala Asn Arg Glu Ala Arg His Ser Tyr His Arg
195 200 205

Ser His Tyr Asp Pro Pro Pro Ser Arg Gln Ala Gly Gly Leu Ser Arg
210 215 220

Phe Pro Gly Ala Arg Ser His Arg Gly Ala Leu Met Asp Ser Gln Gln
225 230 235 240

Ala Ser Gly Thr Ile Val Gln Ile Val Ile Asn Asn Lys His Lys His
245 250 255

Gly Gln Val Cys Val Ser Asn Gly Lys Thr Tyr Ser His Gly Glu Ser
260 265 270

Trp His Pro Asn Leu Arg Ala Phe Gly Ile Val Glu Cys Val Leu Cys
275 280 285

Thr Cys Asn Val Thr Lys Gln Glu Cys Lys Lys Ile His Cys Pro Asn
290 295 300

Arg Tyr Pro Cys Lys Tyr Pro Gln Lys Ile Asp Gly Lys Cys Cys Lys
305 310 315 320

Val Cys Pro Gly Lys Lys Ala Lys Glu Glu Leu Pro Gly Gln Ser Phe
325 330 335

Asp Asn Lys Gly Tyr Phe Cys Gly Glu Glu Thr Met Pro Val Tyr Glu
340 345 350

Ser Val Phe Met Glu Asp Gly Glu Thr Thr Arg Lys Ile Ala Leu Glu
355 360 365

Thr Glu Arg Pro Pro Gln Val Glu Val His Val Trp Thr Ile Arg Lys
370 375 380

Gly Ile Leu Gln His Phe His Ile Glu Lys Ile Ser Lys Arg Met Phe
385 390 395 400

Glu Glu Leu Pro His Phe Lys Leu Val Thr Arg Thr Thr Leu Ser Gln
405 410 415

Trp Lys Ile Phe Thr Glu Gly Glu Ala Gln Ile Ser Gln Met Cys Ser
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Leu Glu Arg Ser Glu Lys Gly His Cys
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Glu Gly Val Phe Tyr Val Asn Asp Ala Leu Glu Lys Leu Met Phe Glu
          35                  40                  45

Glu Leu Arg Asn Ala Cys Arg Gly Gly Gly Val Gly Gly Phe Leu Pro
      50                  55                  60

Ala Met Lys Gln Ile Gly Asn Val Ala Ala Leu Pro Gly Ile Val His
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Arg Ser Ile Gly Leu Pro Asp Val His Ser Gly Tyr Gly Phe Ala Ile
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Gly Asn Met Ala Ala Phe Asp Met Asn Asp Pro Glu Ala Val Val Ser
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Gln Ala Met Phe Asp His Ile Pro Val Gly Val Gly Ser Lys Gly Val
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Ile Pro Met Asn Ala Lys Asp Leu Glu Glu Ala Leu Glu Met Gly Val
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Asp Trp Ser Leu Arg Glu Gly Tyr Ala Trp Ala Glu Asp Lys Glu His
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Cys Glu Glu Tyr Gly Arg Met Leu Gln Ala Asp Pro Asn Lys Val Ser
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Ala Arg Ala Lys Lys Arg Gly Leu Pro Gln Leu Gly Thr Leu Gly Ala
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Gly Asn His Tyr Ala Glu Ile Gln Val Val Asp Glu Ile Phe Asn Glu
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Tyr Ala Ala Lys Lys Met Gly Ile Asp His Lys Gly Gln Val Cys Val
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Met Ile His Ser Gly Ser Arg Gly Leu Gly His Gln Val Ala Thr Asp
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Asn Asp Arg Gln Leu Ala Cys Ala Arg Ile Ala Ser Pro Glu Gly Gln
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Asn Thr Thr Pro Asp Asp Leu Asp Leu His Val Ile Tyr Asp Val Ser
            340                 345                 350

His Asn Ile Ala Lys Val Glu Gln His Val Val Asp Gly Lys Glu Arg
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Thr Leu Leu Val His Arg Lys Gly Ser Thr Arg Ala Phe Pro Pro His
    370                 375                 380

His Pro Leu Ile Ala Val Asp Tyr Gln Leu Thr Gly Gln Pro Val Leu
385                 390                 395                 400

Ile Gly Gly Thr Met Gly Thr Cys Ser Tyr Val Leu Thr Gly Thr Glu
                405                 410                 415

Gln Gly Met Thr Glu Thr Phe Gly Thr Thr Cys His Gly Ala Gly Arg
            420                 425                 430

Ala Leu Ser Arg Ala Lys Ser Arg Arg Asn Leu Asp Phe Gln Asp Val
        435                 440                 445

Leu Asp Lys Leu Ala Asp Met Gly Ile Ala Ile Arg Val Ala Ser Pro
    450                 455                 460

Lys Leu Val Met Glu Glu Ala Pro Glu Ser Tyr Lys Asn Val Thr Asp
465                 470                 475                 480

Val Val Asn Thr Cys His Asp Ala Gly Ile Ser Lys Lys Ala Ile Lys
                485                 490                 495

Leu Arg Pro Ile Ala Val Ile Lys Gly
            500                 505
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<210> 79
<211> 1178
<212> DNA
<213> Homo sapiens

<400> 79
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tcaggtaact attttacacc acaacagaca agcagctttc tcaaatctcc aactcctcct 240
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caggctttga tgagtggttc aaaccccatg ctgggctgta acactggtgc cataactcct 480
gcaggaataa acctgagcgg ccttctaccc tcaggaggtc tgctaccaaa tgcactgccc 540
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taaaaacagg gaaatggttt aacaaaaaaa aaaaaaaa 1178

<210> 80
<211> 310
<212> PRT
<213> Homo sapiens

<400> 80
Met Ser His Ser Ser Ser Gly Ser Ala Ser Leu Ser Gln Val Ser Pro
1 5 10 15

Gly Lys Glu Thr Asp Gln Thr Glu Thr Val Ser Val Gln Ser Ser Val
20 25 30

Leu Gly Lys Gly Val Lys His Arg Pro Pro Pro Ile Lys Leu Pro Ser
35 40 45

Ser Ser Gly Asn Ser Ser Ser Gly Asn Tyr Phe Thr Pro Gln Gln Thr
50 55 60

Ser Ser Phe Leu Lys Ser Pro Thr Pro Pro Pro Ser Ser Lys Pro Ser
65 70 75 80

Ser Ile Pro Arg Lys Ser Ser Val Asp Leu Asn Gln Val Ser Met Leu
85 90 95

Ser Pro Ala Ala Leu Ser Pro Ala Ser Ser Ser Gln Arg Thr Thr Ala
100 105 110

Thr Gln Val Met Ala Asn Ser Ala Gly Leu Asn Phe Ile Asn Val Val
115 120 125

Gly Ser Val Cys Gly Ala Gln Ala Leu Met Ser Gly Ser Asn Pro Met
130 135 140

Leu Gly Cys Asn Thr Gly Ala Ile Thr Pro Ala Gly Ile Asn Leu Ser
145 150 155 160

Gly Leu Leu Pro Ser Gly Gly Leu Leu Pro Asn Ala Leu Pro Ser Ala
165 170 175

Met Gln Ala Ala Ser Gln Ala Gly Val Pro Phe Gly Leu Lys Asn Thr
180 185 190

Ser Ser Leu Arg Pro Leu Asn Leu Leu Gln Leu Pro Gly Gly Ser Leu
195 200 205

Ile Phe Asn Thr Leu Gln Gln Gln Gln Gln Gln Leu Ser Gln Phe Thr
210 215 220

Pro Gln Gln Pro Gln Gln Pro Thr Thr Cys Ser Pro Gln Gln Pro Gly
225 230 235 240

Glu Gln Gly Ser Glu Gln Gly Ser Thr Ser Gln Glu Gln Ala Leu Ser

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                245                 250                 255

Ala Gln Gln Ala Ala Val Ile Asn Leu Thr Gly Val Gly Ser Phe Met
            260                 265                 270

Gln Ser Gln Ala Ala Ala Val Ala Ile Leu Ala Ala Ser Asn Gly Tyr
        275                 280                 285

Gly Ser Ser Ser Ser Thr Asn Ser Ser Ala Thr Ser Ser Ser Ala Tyr
    290                 295                 300

Arg Gln Pro Val Lys Lys
305                 310


<210> 81
<211> 641
<212> DNA
<213> Homo sapiens

<400> 81
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cctggatgtt gtcactagtc tagtggcttt tgctaaataa accttttctta tttctaaaaa 540
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a                                  641

<210> 82
<211> 94
<212> PRT
<213> Homo sapiens

<400> 82
Met Ser Pro Cys Pro Pro Ser Leu Leu Leu Ala Leu Leu Thr Gln Leu
  1               5                  10                  15

Cys Leu Pro Leu Phe His Ser Ser Thr Leu Pro Tyr Met Glu Asp Lys
            20                  25                  30

Trp Thr Pro Gly Val Leu Thr Leu Leu Val Pro Ala Pro Ala Tyr Pro
        35                  40                  45

Arg Cys Gln Gln Thr Leu Val His Arg Arg Leu Pro Gln Leu Trp Ser
    50                  55                  60

Gln Glu Arg Ile Ser Leu His Trp Met Asp Cys Ile Leu Arg Leu Lys
65                  70                  75                  80

Ile Ile Phe Leu Ile Phe Leu Leu Ile Ser Met Leu Ser Leu
                85                  90


<210> 83
<211> 832
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<212> DNA
<213> Homo sapiens

<400> 83
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tttatgaatt tgatgaagtg atgtttccaa agaacgtgag gtgctctact tgtgatttaa 180
ggaaaccagc tcgatccaag cactgcagtg tgtgtaactg gtgtgtgcac cgtttcgacc 240
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<210> 84
<211> 144
<212> PRT
<213> Homo sapiens

<400> 84
Met Phe Pro Lys Asn Val Arg Cys Ser Thr Cys Asp Leu Arg Lys Pro
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Ala Arg Ser Lys His Cys Ser Val Cys Asn Trp Cys Val His Arg Phe
20 25 30

Asp His His Cys Val Trp Val Asn Asn Cys Ile Gly Ala Trp Asn Ile
35 40 45

Arg Tyr Phe Leu Ile Tyr Val Leu Thr Leu Thr Ala Ser Ala Ala Thr
50 55 60

Val Ala Ile Val Ser Thr Thr Phe Leu Val His Leu Val Val Met Ser
65 70 75 80

Asp Leu Tyr Gln Glu Thr Tyr Ile Asp Asp Leu Gly His Leu Pro Cys
85 90 95

Tyr Gly His Gly Leu Ser Tyr Ser Val Pro Val Pro Asp Phe Ser Thr
100 105 110

Asp Cys Leu His Ala Gly Leu Cys Arg Gly Ser Glu Leu Pro Pro Gly
115 120 125

Trp Leu Pro Val Val Cys Pro Val Ser Gly Gly His Gln Pro Asp Tyr
130 135 140

<210> 85
<211> 3790
<212> DNA
<213> Homo sapiens

<400> 85
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aaaaaaaaaa 3790

<210> 86
<211> 940
<212> PRT
<213> Homo sapiens

<400> 86

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Met Asn Arg Ile Arg Lys Phe Phe Arg Gly Ser Gly Arg Val Leu Ala
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Phe Ile Phe Val Ala Ser Val Ile Trp Leu Leu Phe Asp Met Ala Ala
             20                  25                  30

Leu Arg Leu Ser Phe Ser Glu Ile Asn Thr Arg Val Ile Lys Glu Asp
         35                  40                  45

Ile Val Arg Arg Glu Arg Ile Gly Phe Arg Val Gln Pro Asp Gln Gly
     50                  55                  60

Lys Ile Phe Tyr Ser Ser Ile Lys Glu Met Lys Pro Pro Leu Arg Gly
 65                  70                  75                  80

His Gly Lys Gly Ala Trp Gly Lys Glu Asn Val Arg Lys Thr Glu Glu
                 85                  90                  95

Ser Val Leu Lys Val Glu Val Asp Leu Asp Gln Thr Gln Arg Glu Arg
            100                 105                 110

Lys Met Gln Asn Ala Leu Gly Arg Gly Lys Val Val Pro Leu Trp His
        115                 120                 125

Pro Ala His Leu Gln Thr Leu Pro Val Thr Pro Asn Lys Gln Lys Thr
    130                 135                 140

Asp Gly Arg Gly Thr Lys Pro Glu Ala Ser Ser His Gln Gly Thr Pro
145                 150                 155                 160

Lys Gln Thr Thr Ala Gln Gly Ala Pro Lys Thr Ser Phe Ile Ala Ala
                165                 170                 175

Lys Gly Thr Gln Val Val Lys Ile Ser Val His Met Gly Arg Val Ser
            180                 185                 190

Leu Lys Gln Glu Pro Arg Lys Ser His Ser Pro Ser Ser Asp Thr Ser
        195                 200                 205

Lys Leu Ala Ala Glu Arg Asp Leu Asn Val Thr Ile Ser Leu Ser Thr
    210                 215                 220

Asp Arg Pro Lys Gln Arg Ser Gln Ala Val Ala Asn Glu Arg Ala His
225                 230                 235                 240

Pro Ala Ser Thr Ala Val Pro Lys Ser Gly Glu Ala Met Ala Leu Asn
                245                 250                 255

Lys Thr Lys Thr Gln Ser Lys Glu Val Asn Ala Asn Lys His Lys Ala
            260                 265                 270
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Asn Thr Ser Leu Pro Phe Pro Lys Phe Thr Val Asn Ser Asn Arg Leu
275 280 285

Arg Lys Gln Ser Ile Asn Glu Thr Pro Leu Gly Ser Leu Ser Lys Asp
290 295 300

Asp Gly Ala Arg Gly Ala His Gly Lys Lys Leu Asn Phe Ser Glu Ser
305 310 315 320

His Leu Val Ile Ile Thr Lys Glu Glu Glu Gln Lys Ala Asp Pro Lys
325 330 335

Glu Val Ser Asn Ser Lys Thr Lys Thr Ile Phe Pro Lys Val Leu Gly
340 345 350

Lys Ser Gln Ser Lys His Ile Ser Arg Asn Arg Ser Glu Met Ser Ser
355 360 365

Ser Ser Leu Ala Pro His Arg Val Pro Leu Ser Gln Thr Asn His Ala
370 375 380

Leu Thr Gly Gly Leu Glu Pro Ala Lys Ile Asn Ile Thr Ala Lys Ala
385 390 395 400

Pro Ser Thr Glu Tyr Asn Gln Ser His Ile Lys Ala Leu Leu Pro Glu
405 410 415

Asp Ser Gly Thr His Gln Val Leu Arg Ile Asp Val Thr Leu Ser Pro
420 425 430

Arg Asp Pro Lys Ala Pro Gly Gln Phe Gly Arg Pro Val Val Val Pro
435 440 445

His Gly Lys Glu Lys Glu Ala Glu Arg Arg Trp Lys Glu Gly Asn Phe
450 455 460

Asn Val Tyr Leu Ser Asp Leu Ile Pro Val Asp Arg Ala Ile Glu Asp
465 470 475 480

Thr Arg Pro Ala Gly Cys Ala Glu Gln Leu Val His Asn Asn Leu Pro
485 490 495

Thr Thr Ser Val Ile Met Cys Phe Val Asp Glu Val Trp Ser Thr Leu
500 505 510

Leu Arg Ser Val His Ser Val Ile Asn Arg Ser Pro Pro His Leu Ile
515 520 525

Lys Glu Ile Leu Leu Val Asp Asp Phe Ser Thr Lys Asp Tyr Leu Lys
530 535 540

Asp Asn Leu Asp Lys Tyr Met Ser Gln Phe Pro Lys Val Arg Ile Leu
545 550 555 560

Arg Leu Lys Glu Arg His Gly Leu Ile Arg Ala Arg Leu Ala Gly Ala
565 570 575

Gln Asn Ala Thr Gly Asp Val Leu Thr Phe Leu Asp Ser His Val Glu
580 585 590

Cys Asn Val Gly Trp Leu Glu Pro Leu Leu Glu Arg Val Tyr Leu Ser
595 600 605

Arg Lys Lys Val Ala Cys Pro Val Ile Glu Val Ile Asn Asp Lys Asp
610 615 620

Met Ser Tyr Met Thr Val Asp Asn Phe Gln Arg Gly Ile Phe Val Trp
625 630 635 640

Pro Met Asn Phe Gly Trp Arg Thr Ile Pro Pro Asp Val Ile Ala Lys
645 650 655

Asn Arg Ile Lys Glu Thr Asp Thr Ile Arg Cys Pro Val Met Ala Gly
660 665 670

Gly Leu Phe Ser Ile Asp Lys Ser Tyr Phe Phe Glu Leu Gly Thr Tyr
675 680 685

Asp Pro Gly Leu Asp Val Trp Gly Gly Glu Asn Met Glu Leu Ser Phe
690 695 700

Lys Val Trp Met Cys Gly Gly Glu Ile Glu Ile Ile Pro Cys Ser Arg
705 710 715 720

Val Gly His Ile Phe Arg Asn Asp Asn Pro Tyr Ser Phe Pro Lys Asp
725 730 735

Arg Met Lys Thr Val Glu Arg Asn Leu Val Arg Val Ala Glu Val Trp
740 745 750

Leu Asp Glu Tyr Lys Glu Leu Phe Tyr Gly His Gly Asp His Leu Ile
755 760 765

Asp Gln Gly Leu Asp Val Gly Asn Leu Thr Gln Gln Arg Glu Leu Arg
770 775 780

Lys Lys Leu Lys Cys Lys Ser Phe Lys Trp Tyr Leu Glu Asn Val Phe
785 790 795 800

Pro Asp Leu Arg Ala Pro Ile Val Arg Ala Ser Gly Val Leu Ile Asn
805 810 815

Val Ala Leu Gly Lys Cys Ile Ser Ile Glu Asn Thr Thr Val Ile Leu
820 825 830

Glu Asp Cys Asp Gly Ser Lys Glu Leu Gln Gln Phe Asn Tyr Thr Trp
835 840 845

Leu Arg Leu Ile Lys Cys Gly Glu Trp Cys Ile Ala Pro Ile Pro Asp
850 855 860

Lys Gly Ala Val Arg Leu His Pro Cys Asp Asn Arg Asn Lys Gly Leu
865 870 875 880

Lys Trp Leu His Lys Ser Thr Ser Val Phe His Pro Glu Leu Val Asn
885 890 895

His Ile Val Phe Glu Asn Asn Gln Gln Leu Leu Cys Leu Glu Gly Asn
900 905 910

Phe Ser Gln Lys Ile Leu Lys Val Ala Ala Cys Asp Pro Val Lys Pro
915 920 925

Tyr Gln Lys Trp Lys Phe Glu Lys Tyr Tyr Glu Ala
930 935 940

<210> 87
<211> 1200
<212> DNA
<213> Homo sapiens

<400> 87
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taatcctggg tttcagcatt ggaggtggaa tcgaccagga tccttcccag aatcccttct 180
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<210> 88
<211> 286
<212> PRT
<213> Homo sapiens

<400> 88
Met Ser Tyr Ile Pro Gly Gln Pro Val Thr Ala Val Val Gln Arg Val
1 5 10 15

Glu Ile His Lys Leu Arg Gln Gly Glu Asn Leu Ile Leu Gly Phe Ser
20 25 30

Ile Gly Gly Gly Ile Asp Gln Asp Pro Ser Gln Asn Pro Phe Tyr Glu
35 40 45

Asp Lys Thr Asp Lys Gly Ile Tyr Val Thr Arg Val Ser Glu Gly Gly
50 55 60

Pro Ala Glu Ile Ala Gly Leu Gln Ile Gly Asp Lys Ile Met Gln Val
65 70 75 80

Asn Gly Trp Asp Met Thr Met Val Thr His Asp Gln Ala Arg Lys Arg
85 90 95

Leu Thr Lys Arg Ser Glu Glu Val Val Arg Leu Leu Val Thr Arg Gln

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        100                 105                 110

Ser Leu Gln Lys Ala Cys Ser Ser His Ala Val Leu Ala Ala Thr Thr
        115                 120                 125

Ile Cys Asp Ser Cys Leu Pro Pro Leu Cys Thr Val Thr Pro Leu Pro
    130                 135                 140

His Ser Val Pro Ile Trp Leu Leu Leu Thr Ser Phe Leu Ser Trp Thr
145                 150                 155                 160

Pro Arg Ile Gly Asn Lys Gly Leu Glu Leu Ser Ser Ser Gln Ser Ala
                165                 170                 175

Val Thr Thr Gly Ser Gly Pro Thr Leu Leu Leu Gly His Ser Ser Gly
            180                 185                 190

Trp Ala Ser Gly Asn His Tyr Leu Leu Gly Ala Pro Lys Ser Trp Glu
        195                 200                 205

Met Leu Glu Glu Pro Gly Leu Ser Arg Phe Cys Leu Ala Ala Gly Leu
    210                 215                 220

Gly Ser Ala Pro Ala Pro Gln Pro Trp Cys Val His Thr Ala Val Leu
225                 230                 235                 240

Leu Pro Leu Gly Gly Leu Asp Thr His Pro Ala Arg Gly Ala Thr Lys
                245                 250                 255

Leu Cys Pro Asp Glu Ala Arg Trp Ala Pro Arg Ser Leu Pro Leu Ser
            260                 265                 270

Arg Gly Val Leu Ala Ser Pro Gly Phe Ala Phe Leu Arg Ile
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<210> 89
<211> 1023
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<400> 89

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<213> Homo sapiens

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Val Tyr Ala Leu Val Val Val Ser Tyr Phe Leu Ile Thr Gly Gly Ile
35 40 45

Ile Tyr Asp Val Ile Val Glu Pro Pro Ser Val Gly Ser Met Thr Asp
50 55 60

Glu His Gly His Gln Arg Pro Val Ala Phe Leu Ala Tyr Arg Val Asn
65 70 75 80

Gly Gln Tyr Ile Met Glu Gly Leu Ala Ser Ser Phe Leu Phe Thr Met
85 90 95

Gly Gly Leu Gly Phe Ile Ile Leu Asp Arg Ser Asn Ala Pro Asn Ile
100 105 110

Pro Lys Leu Asn Arg Phe Leu Leu Leu Phe Ile Gly Phe Val Cys Val
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Gly Tyr Leu Met Gly
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<211> 3901
<212> DNA
<213> Homo sapiens

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<212> PRT
<213> Homo sapiens

<400> 92
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Tyr Arg Ile Ala Arg Arg Met Lys Pro Thr His Thr Met Val Asn Cys
35 40 45

Trp Phe Cys Asn Gln Asp Thr Leu Val Pro Tyr Gly Asn Arg Asn Cys
50 55 60

Trp Asp Cys Pro His Cys Glu Gln Tyr Asn Gly Phe Gln Glu Asn Gly
65 70 75 80

Asp Tyr Asn Lys Pro Ile Pro Ala Gln Tyr Leu Glu His Leu Asn His
85 90 95

Val Val Ser Ser Ala Pro Ser Leu Arg Asp Pro Ser Gln Pro Gln Gln
100 105 110

Trp Val Ser Ser Gln Val Leu Leu Cys Lys Arg Cys Asn His His Gln
115 120 125

Thr Thr Lys Ile Lys Gln Leu Ala Ala Phe Ala Pro Arg Glu Glu Gly
130 135 140

Arg Tyr Asp Glu Glu Val Glu Val Tyr Arg His His Leu Glu Gln Met
145 150 155 160

Tyr Lys Leu Cys Arg Pro Cys Gln Ala Ala Val Glu Tyr Tyr Ile Lys
165 170 175

His Gln Asn Arg Gln Leu Arg Ala Leu Leu Leu Ser His Gln Phe Lys
180 185 190

Arg Arg Glu Ala Asp Gln Thr His Ala Gln Asn Phe Ser Ser Ala Val
195 200 205

Lys Ser Pro Val Gln Val Ile Leu Leu Arg Ala Leu Ala Phe Leu Ala
210 215 220

Cys Ala Phe Leu Leu Thr Thr Ala Leu Tyr Gly Ala Ser Gly His Phe
225 230 235 240

Ala Pro Gly Thr Thr Val Pro Leu Ala Leu Pro Pro Gly Gly Asn Gly
245 250 255

Ser Ala Thr Pro Asp Asn Gly Thr Thr Pro Gly Ala Glu Gly Trp Arg
260 265 270

Gln Leu Leu Gly Leu Leu Pro Glu His Met Ala Glu Lys Leu Cys Glu
275 280 285

Ala Trp Ala Phe Gly Gln Ser His Gln Thr Gly Val Val Ala Leu Gly
290 295 300

Leu Leu Thr Cys Leu Leu Ala Met Leu Leu Ala Gly Arg Ile Arg Leu
305 310 315 320

Arg Arg Ile Asp Ala Phe Cys Thr Cys Leu Trp Ala Leu Leu Leu Gly
325 330 335

Leu His Leu Ala Glu Gln His Leu Gln Ala Ala Ser Pro Ser Trp Leu
340 345 350

Asn Thr Leu Lys Phe Ser Thr Thr Ser Leu Cys Cys Leu Val Gly Phe
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Thr Ala Ala Val Ala Thr Arg Lys Ala Thr Gly Pro Arg Arg Phe Arg
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Pro Arg Arg Ser Glu Lys Gln Pro
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<211> 2203
<212> DNA
<213> Homo sapiens

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<210> 94
<211> 674
<212> PRT

<213> Homo sapiens

<400> 94

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Ile Lys Lys Asp Pro Ala Gln Phe Leu Gln Val His Gly Arg Ala Cys
        35   40   45

Lys Val His Leu Asp Ser Ala Val Ala Leu Ala Ala Glu Ser Pro Val
    50   55   60

Asn Met Met Pro Trp Gln Gly Asp Thr Asn Asn Met Ile Asp Arg Phe
65   70   75   80

Asp Val Arg Ala His Leu Asp His Ile Pro Asp Tyr Thr Pro Pro Leu
                85   90   95

Leu Thr Thr Ile Ser Pro Glu Gln Glu Ser Asp Glu Arg Lys Cys Asn
            100   105   110

Tyr Glu Arg Tyr Arg Gly Leu Val Gln Asn Asp Phe Ala Gly Ile Ser
        115   120   125

Glu Glu Gln Cys Leu Tyr Gln Ile Tyr Ile Asp Glu Leu Tyr Gly Gly
    130   135   140

Leu Gln Arg Pro Ser Glu Asp Glu Lys Lys Lys Leu Ala Glu Lys Lys
145   150   155   160

Ala Ser Ile Gly Tyr Thr Tyr Glu Asp Ser Thr Val Ala Glu Val Glu
                165   170   175

Lys Ala Ala Glu Lys Pro Glu Glu Glu Glu Ser Ala Ala Glu Glu Glu
            180   185   190

Ser Asn Ser Asp Glu Asp Glu Val Ile Pro Asp Ile Asp Val Glu Val
        195   200   205

Asp Val Asp Glu Leu Asn Gln Glu Gln Val Ala Asp Leu Asn Lys Gln
    210   215   220

Ala Thr Thr Tyr Gly Met Ala Asp Gly Asp Phe Val Arg Met Leu Arg
225   230   235   240

Lys Asp Lys Glu Glu Ala Glu Ala Ile Lys His Ala Lys Ala Leu Glu
                245   250   255

Glu Glu Lys Ala Met Tyr Ser Gly Arg Arg Ser Arg Arg Gln Arg Arg
            260   265   270

Glu Phe Arg Glu Lys Arg Leu Arg Gly Arg Lys Ile Ser Pro Pro Ser
        275   280   285

Tyr Ala Arg Arg Asp Ser Pro Thr Tyr Asp Pro Tyr Lys Arg Ser Pro
    290   295   300

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Gly Arg Glu Glu Lys Ile Thr Phe Ile Thr Ser Phe Gly Gly Ser Asp
                325                 330                 335

Glu Glu Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ser Gly Val Thr
            340                 345                 350

Thr Gly Lys Pro Pro Ala Pro Pro Gln Pro Gly Gly Pro Ala Pro Gly
        355                 360                 365

Arg Asn Ala Ser Ala Arg Arg Arg Ser Ser Ser Ser Ser Ser Ser Ser
    370                 375                 380

Ser Ala Ser Arg Thr Ser Ser Ser Arg Ser Ser Ser Arg Ser Ser Ser
385                 390                 395                 400

Arg Ser Arg Arg Gly Gly Gly Tyr Tyr Arg Ser Gly Arg His Ala Arg
                405                 410                 415

Ser Arg Ser Arg Ser Trp Ser Arg Ser Arg Ser Arg Ser Arg Arg Tyr
            420                 425                 430

Ser Arg Ser Arg Ser Arg Gly Arg Arg His Ser Gly Gly Gly Ser Arg
        435                 440                 445

Asp Gly His Arg Tyr Ser Arg Ser Pro Ala Arg Arg Gly Gly Tyr Gly
    450                 455                 460

Pro Arg Arg Arg Ser Arg Ser Arg Ser His Ser Gly Asp Arg Tyr Arg
465                 470                 475                 480

Arg Gly Gly Arg Gly Leu Arg His His Ser Ser Ser Arg Ser Arg Ser
                485                 490                 495

Ser Trp Ser Leu Ser Pro Ser Arg Ser Arg Ser Leu Thr Arg Ser Arg
            500                 505                 510

Ser His Ser Pro Ser Pro Ser Gln Ser Arg Ser Arg Ser Arg Ser Arg
        515                 520                 525

Ser Gln Ser Pro Ser Pro Ser Pro Ala Arg Glu Lys Leu Thr Arg Pro
    530                 535                 540

Ala Ala Ser Pro Ala Val Gly Glu Lys Leu Lys Lys Thr Glu Pro Ala
545                 550                 555                 560

Ala Gly Lys Glu Thr Gly Ala Ala Lys Pro Lys Leu Thr Pro Gln Glu
                565                 570                 575

Lys Leu Lys Leu Arg Met Gln Lys Ala Leu Asn Arg Gln Phe Lys Ala
            580                 585                 590

Asp Lys Lys Ala Ala Gln Glu Lys Met Ile Gln Gln Glu His Glu Arg
        595                 600                 605

Gln Glu Arg Glu Asp Glu Leu Arg Ala Met Ala Arg Lys Ile Arg Met
    610                 615                 620
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Lys Glu Arg Glu Arg Arg Glu Lys Glu Arg Glu Glu Trp Glu Arg Gln
625 630 635 640

Tyr Ser Arg Gln Ser Arg Ser Pro Ser Pro Arg Tyr Ser Arg Glu Tyr
645 650 655

Ser Ser Ser Arg Arg Arg Ser Arg Ser Arg Ser Arg Ser Pro His Tyr
660 665 670

Arg His

<210> 95
<211> 1014
<212> DNA
<213> Homo sapiens

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<210> 96
<211> 204
<212> PRT
<213> Homo sapiens

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20 25 30

Ser Phe Ile Lys Trp Cys Asn Ser Gly Ser Gln Glu Glu Gly Tyr Ser
35 40 45

Gln Tyr Gln Arg Met Leu Ser Thr Leu Ser Gln Cys Glu Phe Ser Met
50 55 60

Gly Lys Thr Leu Leu Val Tyr Asp Met Asn Leu Arg Glu Met Glu Asn
65 70 75 80

Tyr Glu Lys Ile Tyr Lys Glu Ile Glu Cys Ser Ile Ala Gly Ala His
85 90 95

Glu Lys Ile Ala Glu Cys Lys Lys Gln Ile Leu Gln Ala Lys Arg Ile
100 105 110

Arg Lys Asn Arg Gln Glu Tyr Asp Ala Leu Ala Lys Val Ile Gln His
115 120 125

His Pro Asp Arg His Glu Thr Leu Lys Glu Leu Glu Ala Leu Gly Lys
130 135 140

Glu Leu Glu His Leu Ser His Ile Lys Glu Ser Val Glu Asp Lys Leu
145 150 155 160

Glu Leu Arg Arg Lys Gln Phe His Val Leu Leu Ser Thr Ile His Glu
165 170 175

Leu Gln Gln Thr Leu Glu Asn Asp Glu Lys Leu Ser Glu Val Glu Glu
180 185 190

Ala Gln Glu Ala Ser Met Glu Thr Asp Pro Lys Pro
195 200

<210> 97
<211> 955
<212> DNA
<213> Homo sapiens

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gaacttaagt ttttagattc taaaattgcc cagaaccttt gtaagtatca tattccaata 720
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<211> 97
<212> PRT
<213> Homo sapiens

<400> 98
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Pro Leu Thr Trp Ile Tyr Leu Gly Phe Thr Glu Arg Arg Glu Glu Glu
20 25 30

Asp Ile Glu Glu Lys Lys Ser Ile Lys Lys Lys Ile Lys Glu Leu Lys
35 40 45

Phe Leu Asp Ser Lys Ile Ala Gln Asn Leu Cys Lys Tyr His Ile Pro
50 55 60

Ile Pro Phe Lys Asp Ser Gly Asn Ile Ser Leu Asn Asp Phe Ile Phe
65 70 75 80

Phe Lys Thr Asp Tyr Ser Leu Phe Ala Ile Phe Ile Leu Leu Leu Tyr
85 90 95

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<210> 99
<211> 1375
<212> DNA
<213> Homo sapiens

<400> 99
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<210> 100
<211> 132
<212> PRT
<213> Homo sapiens

<400> 100
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Thr Phe Thr Pro Leu Pro Leu Pro Ser Pro Ala Ser Arg Pro Glu Gly
20 25 30

Cys Arg Gly Ser Trp Gln Leu Leu Gly Glu Val Ser Trp His Arg Leu
35 40 45

Thr Leu Leu Ser Gly Thr Thr Ser Phe Pro Phe Glu Glu Thr Ala Thr

50 55 60

Ala Val Ala Lys Ala Ala Ala Ala Pro Ala Met Arg Val Tyr Ile Phe
65 70 75 80

Phe Thr Gln Ser Ser Gly Ile Val His Leu Phe Phe Lys Thr Gln Arg
85 90 95

Gly Lys Glu Pro Cys Ile Ile Cys Glu His Cys Ile Ile Gly Asn Val
100 105 110

Val Gln Thr Leu Leu Tyr Ser Asp Leu Ser Cys Ser Cys Ser Lys Asn
115 120 125

Pro Leu Trp Thr
130

<210> 101
<211> 1213
<212> DNA
<213> Homo sapiens

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aaaaaaaaaa aaa 1213

<210> 102
<211> 100
<212> PRT
<213> Homo sapiens

<400> 102
Met Lys Gly Val His His Arg Pro His Glu Ala Val Pro Thr Trp Ala
1 5 10 15

Cys Gly Trp Gly Val Ala Thr Thr Glu His Met Ala Val Ser Arg Arg
20 25 30

Lys His Phe Ser Ser Ile Cys Leu His Ala Gln Gly Ser Ser Arg Leu
35 40 45

Pro Val Leu Ser Thr Gly Thr Ala Val Ser Glu Leu Leu Arg Thr Ser
50 55 60

Leu Cys Gln Val Val Glu Leu Gly Pro Ser Pro Tyr Leu Ser Leu Val
65 70 75 80

Pro Thr Val Leu Leu Thr Val Gln His Leu Gly Ala Leu Ala Trp Gly
85 90 95

Trp Arg Pro Trp
100

<210> 103
<211> 1036
<212> DNA
<213> Homo sapiens

<400> 103
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aaaaaaaaaa aaaaaa 1036

<210> 104
<211> 87
<212> PRT
<213> Homo sapiens

<400> 104
Met Tyr Thr Ile Leu Ile Phe Leu Gln Ile Tyr Leu Thr Val Pro Thr
1 5 10 15

Val Leu Ile Val Asp Ser Met Thr Gln Leu Ser His His Pro Arg Ile
20 25 30

Tyr Glu Phe Glu Ile Thr Asp Leu Phe Ser Ser Tyr Cys Ile His Ile
35 40 45

Asn Ile Cys Glu Phe Val Val Gln Leu Phe Ile Gln Thr Lys Asn Ile
50 55 60

Pro Ser Arg Lys Leu His Phe Tyr His Lys His Phe Asn Ile Thr Asn
65 70 75 80

Ile Arg Thr Ser Leu Pro Cys
85

<210> 105
<211> 2349
<212> DNA
<213> Homo sapiens

<400> 105
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ctccctaaag actgtagcag gataaaagga tcactggctc cgagtctctt tgagataaca 180
agtgatgaaa taaaaaagaa agcccatacc ctcaaataag gtcaggtaac cccattgccc 240
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tcctacctgc ctcatcggtg gaagtttaaa gtcatgattt tttttagaca ttgatacttg 360
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aaaaaaaaa 2349

<210> 106
<211> 539
<212> PRT
<213> Homo sapiens

<400> 106
Met Arg Val Ser Pro Ser Asp Thr Thr Pro Leu Val Ser Arg Ser Val
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Pro Pro Val Lys Leu Glu Asp Glu Asp Asp Ser Asp Ser Glu Leu Asp
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Leu Ser Lys Leu Ser Pro Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
        35                  40                  45

Ser Ser Ser Ser Thr Asp Glu Ser Glu Asp Glu Lys Glu Glu Lys Leu
    50                  55                  60

Thr Asp Gln Ser Arg Ser Lys Leu Tyr Asp Glu Glu Ser Leu Leu Ser
65                  70                  75                  80

Leu Thr Met Ser Gln Asp Gly Phe Pro Asn Glu Asp Gly Glu Gln Met
                85                  90                  95

Thr Pro Glu Leu Leu Leu Leu Gln Glu Arg Gln Arg Ala Ser Glu Trp
            100                 105                 110

Pro Lys Asp Arg Val Leu Ile Asn Arg Ile Asp Leu Val Cys Gln Ala
        115                 120                 125

Val Leu Ser Gly Lys Trp Pro Ser Ser Arg Arg Ser Gln Glu Met Val
    130                 135                 140

Thr Gly Gly Ile Leu Gly Pro Gly Asn His Leu Leu Asp Ser Pro Ser
145                 150                 155                 160

Leu Thr Pro Gly Glu Tyr Gly Asp Ser Pro Val Pro Thr Pro Arg Ser
                165                 170                 175

Ser Ser Ala Ala Ser Met Ala Glu Glu Glu Ala Ser Ala Val Ser Thr
            180                 185                 190

Ala Ala Ala Gln Phe Thr Lys Leu Arg Arg Gly Met Asp Glu Lys Glu
        195                 200                 205

Phe Thr Val Gln Ile Lys Asp Glu Glu Gly Leu Lys Leu Thr Phe Gln
    210                 215                 220

Lys His Lys Leu Met Ala Asn Gly Val Met Gly Asp Gly His Pro Leu
225                 230                 235                 240

Phe His Lys Lys Lys Gly Asn Arg Lys Lys Leu Val Glu Leu Glu Val
                245                 250                 255

Glu Cys Met Glu Glu Pro Asn His Leu Asp Val Asp Leu Glu Thr Arg
            260                 265                 270

Ile Pro Val Ile Asn Lys Val Asp Gly Thr Leu Leu Val Gly Glu Asp
        275                 280                 285

Ala Pro Arg Arg Ala Glu Leu Glu Met Trp Leu Gln Gly His Pro Glu
    290                 295                 300

Phe Ala Val Asp Pro Arg Phe Leu Ala Tyr Met Glu Asp Arg Arg Lys
305                 310                 315                 320

Gln Lys Trp Gln Arg Cys Lys Lys Asn Asn Lys Ala Glu Leu Asn Cys
                325                 330                 335
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Leu Gly Met Glu Pro Val Gln Thr Ala Asn Ser Arg Asn Gly Lys Lys
340 345 350

Gly His His Thr Glu Thr Val Phe Asn Arg Val Leu Pro Gly Pro Ile
355 360 365

Ala Pro Glu Ser Ser Lys Lys Arg Ala Arg Arg Met Arg Pro Asp Leu
370 375 380

Ser Lys Met Met Ala Leu Met Gln Gly Gly Ser Thr Gly Ser Leu Ser
385 390 395 400

Leu His Asn Thr Phe Gln His Ser Ser Ser Gly Leu Gln Ser Val Ser
405 410 415

Ser Leu Gly His Ser Ser Ala Thr Ser Ala Ser Leu Pro Phe Met Pro
420 425 430

Phe Val Met Gly Gly Ala Pro Ser Ser Pro His Val Asp Ser Ser Thr
435 440 445

Met Leu His His His His His His Pro His Pro His His His His His
450 455 460

His His Pro Gly Leu Arg Ala Pro Gly Tyr Pro Ser Ser Pro Val Thr
465 470 475 480

Thr Ala Ser Gly Thr Thr Leu Arg Leu Pro Pro Leu Gln Pro Glu Glu
485 490 495

Asp Asp Asp Glu Asp Glu Glu Asp Asp Asp Asp Leu Ser Gln Gly Tyr
500 505 510

Asp Ser Ser Glu Arg Asp Phe Ser Leu Ile Asp Asp Pro Met Met Pro
515 520 525

Ala Asn Ser Asp Ser Ser Glu Asp Ala Asp Asp
530 535

<210> 107
<211> 3004
<212> DNA
<213> Homo sapiens

<400> 107
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<210> 108
<211> 959
<212> PRT
<213> Homo sapiens

<400> 108
Met Ala Phe Ala Glu Cys Ile Ala Pro Ala Cys Val Met Ser Trp Leu
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Arg Phe Trp Gly Pro Trp Pro Leu Leu Thr Trp Gln Leu Leu Ser Leu
20 25 30

Leu Val Lys Glu Ala Gln Pro Leu Val Trp Val Lys Asp Pro Leu Gln
35 40 45

Leu Thr Ser Asn Pro Leu Gly Pro Pro Glu Pro Trp Ser Ser Arg Ser
50 55 60

Ser His Leu Pro Trp Glu Ser Pro His Ala Pro Ala Pro Pro Ala Ala
65 70 75 80

Pro Gly Asp Phe Asp Tyr Leu Gly Pro Ser Ala Ser Ser Gln Met Ser

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                85                  90                  95

Ala Leu Pro Gln Glu Pro Thr Glu Asn Leu Ala Pro Phe Leu Lys Glu
            100                 105                 110

Leu Asp Ser Ala Gly Glu Leu Pro Leu Gly Pro Glu Pro Phe Leu Ala
        115                 120                 125

Ala His Gln Asp Leu Asn Asp Lys Arg Thr Pro Glu Glu Arg Leu Pro
    130                 135                 140

Glu Val Val Pro Leu Leu Asn Arg Asp Gln Asn Gln Ala Leu Val Gln
145                 150                 155                 160

Leu Pro Arg Leu Lys Trp Val Gln Thr Thr Asp Leu Asp Arg Ala Ala
                165                 170                 175

Gly His Gln Ala Asp Glu Ile Leu Val Pro Leu Asp Ser Lys Val Ser
            180                 185                 190

Arg Pro Thr Lys Phe Val Val Ser Pro Lys Asn Leu Lys Lys Asp Leu
        195                 200                 205

Ala Glu Arg Trp Ser Leu Pro Glu Ile Val Gly Ile Pro His Gln Leu
    210                 215                 220

Ser Lys Pro Gln Arg Gln Lys Gln Thr Leu Pro Asp Asp Tyr Leu Ser
225                 230                 235                 240

Met Asp Thr Leu Tyr Pro Gly Ser Leu Pro Pro Glu Leu Arg Val Asn
                245                 250                 255

Ala Asp Glu Pro Pro Gly Pro Pro Glu Gln Val Gly Leu Ser Gln Phe
            260                 265                 270

His Leu Glu Pro Lys Ser Gln Asn Pro Glu Thr Leu Glu Asp Ile Gln
        275                 280                 285

Ser Ser Ser Leu Gln Glu Glu Ala Pro Ala Gln Leu Leu Gln Leu Pro
    290                 295                 300

Gln Glu Val Glu Pro Ser Thr Gln Gln Glu Ala Pro Ala Leu Pro Pro
305                 310                 315                 320

Glu Ser Ser Met Glu Ser Leu Ala Gln Thr Pro Leu Asn His Glu Val
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Thr Val Gln Pro Pro Gly Glu Asp Gln Ala His Tyr Asn Leu Pro Lys
            340                 345                 350

Phe Thr Val Lys Pro Ala Asp Val Glu Val Thr Met Thr Ser Glu Pro
        355                 360                 365

Lys Asn Glu Thr Glu Ser Thr Gln Ala Gln Gln Glu Ala Pro Ile Gln
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Pro Pro Glu Glu Ala Glu Pro Ser Ser Thr Ala Leu Arg Thr Thr Asp
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Pro Pro Pro Glu His Pro Glu Val Thr Leu Pro Pro Ser Asp Lys Gly
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                405                 410                 415

Gln Ala Gln His Ser His Leu Thr Glu Ala Thr Val Gln Pro Leu Asp
            420                 425                 430

Leu Glu Leu Ser Ile Thr Thr Glu Pro Thr Thr Glu Val Lys Pro Ser
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Pro Thr Thr Glu Glu Thr Ser Ala Gln Pro Pro Asp Pro Gly Leu Ala
    450                 455                 460

Ile Thr Pro Glu Pro Thr Thr Glu Ile Gly His Ser Thr Ala Leu Glu
465                 470                 475                 480

Lys Thr Arg Ala Pro His Pro Asp Gln Val Gln Thr Leu His Arg Ser
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Leu Thr Glu Val Thr Gly Pro Pro Thr Lys Leu Glu Ser Ser Gln Asp
            500                 505                 510

Ser Leu Val Gln Ser Glu Thr Ala Pro Glu Glu Gln Lys Ala Ser Thr
        515                 520                 525

Ser Thr Asn Ile Cys Glu Leu Cys Thr Cys Gly Asp Glu Thr Leu Ser
    530                 535                 540

Cys Val Gly Leu Ser Pro Lys Gln Arg Leu Arg Gln Val Pro Val Pro
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Glu Pro Asp Thr Tyr Asn Gly Ile Phe Thr Thr Leu Asn Phe Gln Gly
                565                 570                 575

Asn Tyr Ile Ser Tyr Leu Asp Gly Asn Val Trp Lys Ala Tyr Ser Trp
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Thr Glu Lys Leu Ile Leu Ser Glu Asn Tyr Leu Thr Glu Leu Pro Lys
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Asp Ser Phe Glu Gly Leu Leu Tyr Leu Gln Tyr Leu Asp Leu Ser Cys
    610                 615                 620

Asn Lys Ile Arg Tyr Ile Glu Arg Gln Thr Phe Glu Ser Leu Pro Phe
625                 630                 635                 640

Leu Gln Tyr Ile Asn Leu Gly Cys Asn Leu Ile Thr Lys Leu Ser Leu
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Gly Thr Phe Gln Ala Trp His Gly Met Gln Phe Leu His Asn Leu Ile
            660                 665                 670

Leu Asn Arg Asn Pro Leu Thr Thr Val Glu Asp Pro Tyr Leu Phe Glu
        675                 680                 685

Leu Pro Ala Leu Lys Tyr Leu Asp Met Gly Thr Thr His Ile Thr Leu
    690                 695                 700

Thr Thr Leu Lys Asn Ile Leu Thr Met Thr Val Glu Leu Glu Lys Leu
705                 710                 715                 720

Ile Leu Pro Ser His Met Ala Cys Cys Leu Cys Gln Phe Lys Asn Ser
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Ile Glu Ala Val Cys Lys Thr Val Lys Leu His Cys Asn Thr Ala Cys
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Leu Thr Asn Ser Ile His Cys Pro Glu Glu Ala Ser Val Gly Asn Pro
        755                 760                 765

Glu Gly Ala Phe Met Lys Met Leu Gln Ala Arg Lys Gln His Met Ser
    770                 775                 780

Thr Gln Leu Thr Ile Glu Ser Glu Ala Pro Ser Asp Ser Ser Gly Ile
785                 790                 795                 800

Asn Leu Ser Gly Phe Gly Gly Asp Gln Leu Glu Ile Gln Leu Thr Glu
                805                 810                 815

Gln Leu Arg Ser Leu Ile Pro Asn Glu Asp Val Arg Lys Phe Met Ser
            820                 825                 830

His Val Ile Arg Thr Leu Lys Met Glu Cys Ser Glu Thr His Val Gln
        835                 840                 845

Gly Ser Cys Ala Lys Leu Met Ser Arg Thr Gly Leu Leu Met Lys Leu
    850                 855                 860

Leu Ser Glu Gln Gln Glu Ala Lys Ala Leu Asn Val Glu Trp Asp Thr
865                 870                 875                 880

Asp Gln Gln Lys Thr Asn Tyr Ile Asn Glu Asn Met Glu Gln Asn Glu
                885                 890                 895

Gln Lys Glu Gln Lys Ser Ser Glu Leu Met Lys Glu Val Pro Gly Asp
            900                 905                 910

Asp Tyr Lys Asn Lys Leu Ile Phe Ala Ile Ser Val Thr Val Ile Leu
        915                 920                 925

Ile Ile Leu Ile Ile Ile Phe Cys Leu Ile Glu Val Asn Ser His Lys
    930                 935                 940

Arg Ala Ser Glu Lys Tyr Lys Asp Asn Pro Ser Ile Ser Gly Ala
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<210> 110
<211> 118
<212> PRT
<213> Homo sapiens

<400> 110
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Ile Trp Ile Phe Gly Ser Leu Thr Ile Phe Leu Leu Ala Arg Val Leu
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Gly Gly Glu Val Ala Tyr Gly Gln Val Leu Gly Val Ile Gly Tyr Ser
35 40 45

Leu Leu Pro Leu Ile Val Ile Ala Pro Val Leu Leu Val Val Gly Ser
50 55 60

Phe Glu Val Val Ser Thr Leu Ile Lys Leu Phe Gly Val Phe Trp Ala
65 70 75 80

Ala Tyr Ser Ala Ala Ser Leu Leu Val Gly Glu Glu Phe Lys Thr Lys
85 90 95

Lys Pro Leu Leu Ile Tyr Pro Ile Phe Leu Leu Tyr Ile Tyr Phe Leu
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Ser Leu Tyr Thr Gly Val
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<210> 111
<211> 2610
<212> DNA
<213> Homo sapiens

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<211> 116
<212> PRT
<213> Homo sapiens

<400> 112
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Leu Ser Leu Tyr Thr His Val Thr Cys Ser Ser Leu Pro Ser Ser Leu
20 25 30

Cys Leu Tyr Ile Tyr Tyr Tyr His Arg Gly Leu Gly Lys Lys Thr Pro
35 40 45

Thr Ala Ala Pro His Thr His Pro Pro Ala Leu Tyr His Leu Leu Cys
50 55 60

Phe Val Phe Leu Cys Arg Ile His Asp Phe Leu Lys Tyr Asn Phe Phe
65 70 75 80

Asn Val Tyr Ile Leu Tyr Ala Phe Ser His Ser Tyr Val Lys Ser Gly
85 90 95

Arg His Arg Leu Val Phe Leu Phe Thr Val Asp Ala Ser Val Pro Lys
100 105 110

Ile Cys Ile Ala
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<210> 113
<211> 2759
<212> DNA
<213> Homo sapiens

<400> 113
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<211> 99
<212> PRT
<213> Homo sapiens

<400> 114
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His Ala Met Arg Arg Leu Ile Asn Leu Leu Arg Gln Ser Gln Ser Tyr
20 25 30

Cys Thr Asp Thr Glu Cys Leu Gln Glu Leu Pro Gly Pro Ser Gly Asp
35 40 45

Asn Gly Ile Ser Val Thr Met Ile Leu Val Ala Trp Met Val Ile Ala
50 55 60

Leu Ile Leu Phe Leu Leu Arg Pro Pro Asn Leu Arg Gly Ser Ser Leu
65 70 75 80

Pro Gly Lys Pro Thr Ser Pro His Asn Gly Gln Asp Pro Pro Ala Pro
85 90 95

Pro Val Asp

<210> 115
<211> 1404
<212> DNA
<213> Homo sapiens

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<210> 116
<211> 184
<212> PRT
<213> Homo sapiens

<400> 116
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20 25 30

Phe Arg Ser Leu Pro Arg His Thr Phe Gly Leu Val Gln Ser Lys Leu
35 40 45

Phe Pro Phe Tyr Phe His Ile Ser Met Gly Cys Ala Phe Ile Asn Leu
50 55 60

Cys Ile Leu Ala Ser Gln His Ala Trp Ala Gln Leu Thr Phe Trp Glu
65 70 75 80

Ala Ser Gln Leu Tyr Leu Leu Phe Leu Ser Leu Thr Leu Ala Thr Val
85 90 95

Asn Ala Arg Trp Leu Glu Pro Arg Thr Thr Ala Ala Met Trp Ala Leu
100 105 110

Gln Thr Val Glu Lys Glu Arg Gly Leu Gly Gly Glu Val Pro Gly Ser
115 120 125

His Gln Gly Pro Asp Pro Tyr Arg Gln Leu Arg Glu Lys Asp Pro Lys
130 135 140

Tyr Ser Ala Leu Arg Gln Asn Phe Phe Arg Tyr His Gly Leu Ser Ser
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Leu Cys Asn Leu Gly Cys Val Leu Ser Asn Gly Leu Cys Leu Ala Gly
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Leu Ala Leu Glu Ile Arg Ser Leu
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<210> 117
<211> 1801
<212> DNA
<213> Homo sapiens

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ggttataatc aaagattata gaactgttat actggaaaaa cacgaaatat tctaattatg 1500
aattaattgg ggattggtta aataaactat ggtttgatat gctctaaaaa taatgttaca 1560
gaaaaaagtg tactgatatg gcaaaatgta tgacttatag ttaaaaaagc aggttagatg 1620
ttgatagata cagtatgata gaaaaagatc aggaaggtat atgctgacat ttaaatctgg 1680
atatttatga gtgtttttt tatttcaatc tttgtacatg catgtatttt ctagaaattg 1740
tattactatc tttgtaataa agtaaattat ttttaaggga ctaaaaaaaa aaaaaaaaaa 1800
a 1801

<210> 118
<211> 86
<212> PRT
<213> Homo sapiens

<400> 118
Met Val Arg Lys Val Asn Ala His Leu Pro Leu Ser Phe Pro Thr Val
1 5 10 15

Glu Thr Asp Ser Arg Glu Ile Leu Gln Val Arg Cys Tyr Val Gly Leu
20 25 30

Arg Glu Arg Cys Tyr Asp Gln Thr Glu Pro Phe Ser Leu Pro Ser Val
35 40 45

His Gly Phe Ser Trp Leu Cys Gly Pro Val Ser Cys His Ser Phe Thr
50 55 60

Pro Asn Phe Trp Asp Ile Gln Gly Asn Asn Leu Ala Thr Gly Tyr Leu
65 70 75 80

Leu Val Glu Ile Met Trp
85

<210> 119
<211> 29
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<400> 119

ancgggagcc tcctgaccat ctcctcttc 29

<210> 120
<211> 29
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<220>
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<220>
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<400> 120
cncacagaaa attcaataag accctcgct 29

<210> 121
<211> 29
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<213> Artificial Sequence

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<400> 121
cncagctctt cgtagggaag ttctgactt 29

<210> 122
<211> 29
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<220>
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antcctgcac accagccagt aacgccacc 29

<210> 123
<211> 29
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<220>
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gnggctggaa agatgtgtgg ggatcaaga 29

<210> 124
<211> 29
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<213> Artificial Sequence

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<220>
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anatgggtct aagccacaca acagggtga 29

<210> 125
<211> 29
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<220>
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<220>
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<400> 125
ancggcaggg aacttacagg gacagagct 29

<210> 126
<211> 29
<212> DNA
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<220>
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<400> 126
gngttttcgg tgtcgatggt gtagaggat 29

<210> 127
<211> 29
<212> DNA
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<210> 128
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<210> 129
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<400> 129
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<210> 130
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tncttgaggc aatggttgaa gtccggcgg 29

<210> 131
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<400> 131
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<210> 132
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<400> 132
gngcatctca ctggatgtca tcatcatca 29

<210> 133
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<220>
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<400> 133
tngtccatgt gaagggcatg ggccagttg 29

<210> 134
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<400> 134

gngcactgta ttgagctgat tgctgaagc 29

<210> 135
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cncagaagca gaagaatgac aggcaacac 29

<210> 136
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<210> 137
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<400> 137
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<210> 138
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<400> 138
angggaacaa gacaactgga gaagggtca 29

<210> 139
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tngtctccca ggtagacaga gggcttcag 29

<210> 140
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<210> 141
<211> 29
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<213> Artificial Sequence

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<220>
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<400> 141
tngtgataga tcctttcgta acaccaagt 29

<210> 142
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

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<220>
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<400> 142
angaccagat ctcacccagc acatcaaac 29

<210> 143
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<213> Artificial Sequence

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<400> 143
tntttggggc aagatggctg ttaagcagt 29

<210> 144
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<213> Artificial Sequence

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<220>
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<210> 145
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<210> 146
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<212> DNA
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<210> 148
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<210> 149
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<210> 150
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<212> DNA
<213> Artificial Sequence

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<220>
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<400> 150
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<210> 151
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<220>
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<220>
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<400> 151
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<210> 152
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 152
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<210> 153
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> (2)
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<400> 153
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<210> 154
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<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<222> (2)
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<400> 154
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<210> 155
<211> 29
<212> DNA
<213> Artificial Sequence

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<220>
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<222> (2)
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<400> 155
anggatgcca tctctcaccc actctgtac 29

<210> 156
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 156
anaccaccac ctcgacaggc attccttaa 29

<210> 157
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

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<220>
<221> misc_feature
<222> (2)
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<400> 157
cncctgaggg tagaaggccg ctcaggttt 29

<210> 158
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 158
tngagttagc agagcaagaa gcaaggagg 29

<210> 159
<211> 29
<212> DNA
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<220>
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<400> 159
tttgcatgta tagttctctg cagtagcat 29

<210> 160
<211> 29
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<220>
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<210> 161
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<213> Artificial Sequence

<220>
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<220>
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<400> 161
tnaggcttgt gcacttgctg agcttccag 29

<210> 162
<211> 29
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<213> Artificial Sequence

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<220>
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<400> 162
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<210> 163
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<400> 163
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<210> 164
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<220>
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<222> (2)
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<400> 164
angtcgttct gcaccaggcc tctgtagcg 29

<210> 165
<211> 29
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<213> Artificial Sequence

<220>
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<220>
<221> misc_feature
<222> (2)
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<400> 165
gntcatctcc agcaccatct ccatcaatg 29

<210> 166
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 166
actgtctttg aatggtattg 20

<210> 167
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 167
angttcacat atgatacaag gctctttcc 29

<210> 168
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
<221> misc_feature
<222> (2)
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<400> 168
cnagtagaca gcacaggtag tcggcttga 29

<210> 169
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<223> biotinylated phosphoaramidite residue

<400> 169
gngaatgcaa tatgaagaaa acaggtcag 29

<210> 170
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<400> 170
anatcaaggt gattaggctc ttccatgca 29

<210> 171
<211> 29
<212> DNA
<213> Artificial Sequence

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<400> 171
tntacattca atgcctttgc ttcctgctg 29

<210> 172
<211> 29
<212> DNA
<213> Artificial Sequence

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<220>
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<400> 172
antccatgag accaccctaa actgtccat 29

<210> 173
<211> 29
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<213> Artificial Sequence

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<220>
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<400> 173
gngaggaaaa gtgctctgtg ttgatgtat 29

<210> 174
<211> 29
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<213> Artificial Sequence

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<220>
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<400> 174
antccacctt ctgccatgat tacccagct 29

<210> 175
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> (2)
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<400> 175
anccaagatg cagaggttga tgaaggcac 29

<210> 176
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 176
tntaatgcct gaaaagatgt gtgtctcct 29

<210> 177
<211> 388
<212> PRT
<213> Homo sapiens

<400> 177
Met His Leu Tyr Lys Thr Asn Lys Met Thr Ser Leu Lys Glu Asp Val
1 5 10 15

Arg Arg Ser Ala Met Leu Cys Ile Leu Thr Val Pro Ala Ala Met Thr
20 25 30

Ser His Asp Leu Met Lys Phe Val Ala Pro Phe Asn Glu Val Ile Glu
35 40 45

Gln Met Lys Ile Ile Arg Asp Ser Thr Pro Asn Gln Tyr Met Val Leu
50 55 60

Ile Lys Phe Arg Ala Gln Ala Asp Ala Asp Ser Phe Tyr Met Thr Cys
65 70 75 80

Asn Gly Arg Gln Phe Asn Ser Ile Glu Asp Asp Val Cys Gln Leu Val
85 90 95

Tyr Val Glu Arg Ala Glu Val Leu Lys Ser Glu Asp Gly Ala Ser Leu
100 105 110

Pro Val Met Asp Leu Thr Glu Leu Pro Lys Cys Thr Val Cys Leu Glu
115 120 125

Arg Met Asp Glu Ser Val Asn Gly Ile Leu Thr Thr Leu Cys Asn His
130 135 140

Ser Phe His Ser Gln Cys Leu Gln Arg Trp Asp Asp Thr Thr Cys Pro
145 150 155 160

Val Cys Arg Tyr Cys Gln Thr Pro Glu Pro Val Glu Glu Asn Lys Cys
165 170 175

Phe Glu Cys Gly Val Gln Glu Asn Leu Trp Ile Cys Leu Ile Cys Gly
180 185 190

His Ile Gly Cys Gly Arg Tyr Val Ser Arg His Ala Tyr Lys His Phe
195 200 205

Glu Glu Thr Gln His Thr Tyr Ala Met Gln Leu Thr Asn His Arg Val
210 215 220

Trp Asp Tyr Ala Gly Asp Asn Tyr Val His Arg Leu Val Ala Ser Lys
225 230 235 240

Thr Asp Gly Lys Ile Val Gln Tyr Glu Cys Glu Gly Asp Thr Cys Gln
245 250 255

Glu Glu Lys Ile Asp Ala Leu Gln Leu Glu Tyr Ser Tyr Leu Leu Thr
260 265 270

Ser Gln Leu Glu Ser Gln Arg Ile Tyr Trp Glu Asn Lys Ile Val Arg
275 280 285

Ile Glu Lys Asp Thr Ala Glu Glu Ile Asn Asn Met Lys Thr Lys Phe
290 295 300

Lys Glu Thr Ile Glu Lys Cys Asp Asn Leu Glu His Lys Leu Asn Asp
305 310 315 320

Leu Leu Lys Glu Lys Gln Ser Val Glu Arg Lys Cys Thr Gln Leu Asn
325 330 335

Thr Lys Val Ala Lys Leu Thr Asn Glu Leu Lys Glu Glu Gln Glu Met
340 345 350

Asn Lys Cys Leu Arg Ala Asn Gln Val Leu Leu Gln Asn Lys Leu Lys
355 360 365

Glu Glu Glu Arg Val Leu Lys Glu Thr Cys Asp Gln Lys Asp Leu Gln
370 375 380

Ile Thr Glu Ile
385

<210> 178
<211> 171
<212> PRT
<213> Homo sapiens

<400> 178
Met Met Met Gln Cys Val Ser Arg Met Leu Ala His Pro Leu His Val
1 5 10 15

Ile Ser Met Arg Cys Met Val Gln Phe Val Gly Arg Glu Ala Lys Tyr
20 25 30

Ser Gly Val Leu Ser Ser Ile Gly Lys Ile Phe Lys Glu Glu Gly Leu
35 40 45

Leu Gly Phe Phe Val Gly Leu Ile Pro His Leu Leu Gly Asp Val Val
50 55 60

Phe Leu Trp Gly Cys Asn Leu Leu Ala His Phe Ile Asn Ala Tyr Leu
65 70 75 80

Val Asp Asp Ser Phe Ser Gln Ala Leu Ala Ile Arg Ser Tyr Thr Lys
85 90 95

Phe Val Met Gly Ile Ala Val Ser Met Leu Thr Tyr Pro Phe Leu Leu
100 105 110

Val Gly Asp Leu Met Ala Val Asn Asn Cys Gly Leu Gln Ala Gly Leu
115 120 125

Pro Pro Tyr Ser Pro Val Phe Lys Ser Trp Ile His Cys Trp Lys Tyr
130 135 140

Leu Ser Val Gln Gly Gln Leu Phe Arg Gly Ser Ser Leu Leu Phe Arg

145 150 155 160

Arg Val Ser Ser Gly Ser Cys Phe Ala Leu Glu
165 170

<210> 179
<211> 142
<212> PRT
<213> Homo sapiens

<400> 179
Met His Gln Leu Leu Gln Leu Gln Arg Gln Glu Pro Cys Arg Leu Leu
1 5 10 15

Ser Pro Ser Pro Gln Pro Gly Leu His His Leu Cys Phe Gln Gln Ile
20 25 30

Glu Leu Leu Leu Leu Leu Leu His Leu Gln Trp Gly Leu Gly Leu Leu
35 40 45

Arg Gln Leu His His Lys Arg Leu Ala Gln Leu Leu Leu His Arg Arg
50 55 60

Arg Asp His Pro Ile Pro Pro Ile Gln Asp Ile Leu Gly Ile Ala Lys
65 70 75 80

Cys Pro Cys Pro Trp Ala Ile Ile Leu Met Arg Met Ala Ser Ile Ile
85 90 95

Cys His Ile His Gln Cys Ile Thr Arg Val Leu Asp Arg Leu His Thr
100 105 110

Arg Asp Pro Ser Ser Leu His Thr Pro Ser Leu Ser Pro His Ser Ser
115 120 125

Leu Thr Ile His Ser Ser Asn Met Ser Ala Gln Gln Leu Ser
130 135 140

<210> 180
<211> 82
<212> PRT
<213> Homo sapiens

<400> 180
Met Gly Pro Val Ser Ala Gly Ser Gln Gly Cys Gly Thr Cys Ala Val
1 5 10 15

Lys Leu Ala Pro Thr Trp Arg Ala Ala Ala Ala Thr Cys Phe Leu Gln
20 25 30

His Leu Leu Pro Cys Ser Val Ser Ser Leu Ser Pro Arg Leu Ala Gln
35 40 45

Glu Cys Trp Lys Ser Ser Arg Leu Gly Leu Gly Ala Trp Pro Leu Asp
50 55 60

Ile Pro Arg Ala Ser Pro Val Leu Pro Ser Pro Arg Thr Thr Gly Pro
65 70 75 80

Leu Ala